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Cooperative Economic Insect Report

Issued by
PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S.DEPARTMENT OF AGRICULTURE

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ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
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The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

urrent Conditions

RMYWORM moths increased in light traps in several Midwestern tates. (pp. 511-512). POTATO LEAFHOPPER caused some yellowing f forage crops in Indiana and Wisconsin. (p. 500).

UROPEAN CORN BORER moth emergence well underway in Illinois, oths flying in Minnesota, and emergence expected to continue t low level in Wisconsin until nights are warm. WESTERN CORN OOTWORM adult emergence noted in Kansas. (pp. 500-501, 511-512).

LFALFA WEEVIL eggs heavier than normal in alfalfa in northern tah. Populations increased in alfalfa in west-central New exico. PEA APHID required treatment on alfalfa for seed in evada. (pp. 502, 503).

OLL WEEVIL caused concern on cotton in Rio Grande Valley and entral and north-central areas of Texas; punctured squares ncreased in Mississippi. BOLLWORM heavy in Rio Grande Valley nd COTTON FLEAHOPPER increased throughout most cotton areas of exas. (pp. 503-504).

OLORADO POTATO BEETLE adults and eggs increased on potatoes in ed River Valley of Minnesota, potential exists for damaging opulation. (p. 504).

ORN FLY continued to increase on livestock in areas of Texas. p. 507).

RASSHOPPERS required controls on range and crop areas in Utah, aused problems in some crops in Sacramento and San Joaquin alleys of California. (p. 509).

etection

TUSSOCK MOTH reported for first time in West Virginia. (p. 506).

or new county records see page 505.

eports in this issue are for week ending June 28 unless otherwise ndicated.

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NATIONAL WEATHER SERVICE'S 30-DAY OUTLOOK

JULY 1974

The National Weather Service's 30 day outlook for July is for temperatures to average above seasonal normals in the northern Great Plains and west of the Continental Divide except for near to below normal along the central Pacific coast. Below normal averages are expected over the South and from the middle Mississipp Valley to the middle Atlantic coast. In unspecified areas near normal temperatures are in prospect. Rainfall is expected to exceed the median amount over the eastern quarter of the Nation as well as the west gulf coast region, the southern Great Plains, and the Great Basin. Elsewhere less than the median value is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price $5.00 a year.

RMYWORM (Pseudaletia unipuncta) - VIRGINIA - Damage on no-till orn began in Madison County May 28. Damage through State not as eavy as in previous years, but many growers of no-till corn xperienced economic damage. Damage heavy on Lee County sod corn uring first week in June. (Allen). MICHIGAN - Light in scattered t. Joseph County wheatfields. Larvae ranged very small to about ill grown. Growers should continue field checks as damage occurs apidly. (Henningsen, Ruppell).

STER LEAFHOPPER (Macrosteles fascifrons) - WISCONSIN - Counts in aturing spring grain decreased to less than 10 per 100 sweeps in ields checked in southern half of State. Immature forms found in ore mature oats in Jefferson and Marquette Counties. Few less ature oatfields contained 20-30 adults per 100 sweeps. Potatoes nd beans checked in central and south-central districts showed elatively few adults, with 1-2 per 50 sweeps common. Treatments ell underway in lettuce and carrot areas with few if any adults ound. This should continue until significant increases in adult ounts occur. (Wis. Ins. Sur.).

ORN EARWORM (Heliothis zea) - TENNESSEE - Larvae beginning to eed on forming sweet corn ears in many parts of central area. Gordon). MISSISSIPPI - Larvae infested 90 percent of ears of weet corn in gardens and field corn grown for silage in oxubee County. Surveys negative on soybeans blooming and in oung pod stage in Leflore County. (Robinson). UTAH - Moth taken n blacklight trap at Salt Lake City, Salt Lake County. Stephens).

REENBUG (Schizaphis graminum) - SOUTH DAKOTA - Ranged light to eavy in many small grain fields in several counties. Light and oneconomic in most small grains checked in Davison, Charles Mix, ripp, and Lyman Counties. Infestations heavier on spring wheat n Beadle County; several infestations in barley reported. nfestations variable in spring grains; noneconomic in many ields, economic in some fields. Controls recommended where pring grains infested and damage observed. Surveys in sorghum-rowing areas of Davison, Charles Mix, Lyman, and Tripp Counties ndicate seedling sorghum growing rapidly, and pest has not ncreased significantly in infested fields. Counts lighter on eedling sorghum than previous period in many cases. However, ome fields need treatment. (Wahlgenbach). NEBRASKA - Infested 11 ercent of plants in 260 Clay County grain sorghum fields week nding June 21. Ranged 0-152 per plant, average 0.4. No parasitism oted. (Gary, Keith).

ANSAS - No damaging greenbug infestations reported in sorghum xcept one Lyon County field near Olpe. Reported infesting about 5 percent of 99 sorghum fields (average height 6 inches) in eade, Stevens, and Haskell Counties. All infested fields averaged ess than 10 aphids per plant. Of 39 fields (average height 6 nches) in Nemaha County, 64 percent infested (as opposed to bout 30 percent previous period); 49 percent had infestations of 0 greenbugs or less and 15 percent had 50 or less (average per lant). Infestations averaged zero and 10 per plant in 2 fields of 4-inch Riley County sorghum; none found in 18-inch sorghum in ottawatomie and Jefferson Counties. (Bell). COLORADO - Light on orghum in Arkansas Valley, some visible damage noted in some

fields. (Schweissing). TEXAS - Activity decreased in Hill and Ellis Counties. Light populations observed in one isolated field in Pecos County. Ranged 1-5 per plant in 10 percent of plants. Also light in High Plains. Light infestations of greenbug also reported in Knox and Wilbarger Counties. (Buxkemper et al.).

POTATO LEAFHOPPER (Empoasca fabae) - OHIO - Recent cool, wet weather retarded populations. Although economic counts of one per sweep detected in Auglaize County alfalfa, fields surveyed in Miami, Logan, Shelby, Champaign, and Union Counties showed less than 30 per 50 sweeps. Still generally light on 5 to 9-inch soybeans in central and western areas. Counts per row foot varied as follows by county: Delaware 0-1 (average 0.4); Marion 1-2 (average 1.5); Champaign 1-4 (average 2.6); Miami 1-5 (average 1.9); Shelby 1-3 (average 0.9); Union 1-3 (average 1.8). (Fox). INDIANA - Yellowing noted in southwest and south-central district alfalfa in fields in bloom or near bloom and 20+ inches tall. (Edwards). WISCONSIN - Continued light in forage. Averaged less than one per 10 sweeps, except in Rock County where adults and nymphs averaged 12 per sweep with noticeable yellowing of crop. (Wis. Ins. Sur.). MISSOURI - Very light populations observed on soybeans in north-central area. (Thomas).

SPOTTED ALFALFA APHID (Therioaphis maculata) - UTAH - Infested alfalfa in Delta area of Millard County. This is 30 days earlier than similar outbreaks have occurred in recent years. (Davis, Chapman). NEW MEXICO - Averaged 15 per 25 sweeps in alfalfa near Grants, Valencia County. (N.M. Coop. Rpt.). FLORIDA - Increased from 10 to 120 per 100 sweeps of alfalfa at Gainesville, Alachua County, past 14 days. (Fla. Coop. Sur.).

TOBACCO BUDWORM (Heliothis virescens) - NORTH CAROLINA - Pest management surveys in Wayne County area (June 20) indicate low percentage of 49 fields surveyed in Wayne County at threshold level (10 percent of plants with one larva). Spot checks and reports during week of June 20 from Surry, Stokes, and Rockingham Counties indicate higher than average infestation levels. Some fields observed in Rockingham County with 50 percent infestation levels. (Lamm, Ellis).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - NEW YORK - Moth flight declined night of June 23 in Geneva area, Ontario County, and remained light since. Flights of first brood extended from May 28 to June 23; an unusually long period. Species being watched to see if different pattern of field infestation will occur. (Davis) DELAWARE - Adults in Sussex County blacklight traps averaged less than one per night. Most first-brood larvae in early corn in third to fifth instar with first-generation pupation first found June 2 in Sussex County. (Burbutis).

MICHIGAN - European corn borer eggs and larvae present in St. Joseph County field corn. Growers advised to check for first generation and treat if necessary. (Henningsen et al.). WISCONSIN - Adult emergence expected to continue at low level until occurrence of several successive warm nights. Fresh egg masses averaged 2 per 25 small corn plants in Mazomanie area and one per 100 plants in Janesville area. Dissection of cornstalks showed 30 percent pupae and 70 percent emergence at Union Grove, and 31 percent pupae and 69 percent emergence at Sturtevant June 24. (Wis. Ins. Sur.). MINNESOTA - Pupation about 100 percent in

ɔst districts, emergence 20-40 percent. Moths noted flying in egume fields, roadsides, and meadows. Light trap at Lamberton ad highest count of 18 moths. First egg masses of season found n southeast district; averaged one per 100 corn plants. acrocentrus mactans (a braconid wasp) parasitized 37 percent of aged O. nubilalis larvae collected in northwest district. etermined by J. Lumen. (Minn. Pest Rpt.).

ɔWA - Early instars of European corn borer infested 40 percent f plants in 40-acre Lee County cornfield. Adult flight sharply ırtailed in central area. Expected oviposition not yet detected. eavy rains, winds, and cool evening temperatures likely contributed ɔ adult mortality and lack of substantial oviposition. Probability f first-generation economic damage to central area corn very nlikely. (Iowa Ins. Sur.). ILLINOIS - Moth emergence 100 percent n Champaign County and 68 percent in Ogle County. Whorl feeding ınged 30-75 (average 55) percent on early corn in Pike and Adams ɔunties. Most larvae second instar. Whorl feeding in early fields ınged 19-87 (average 53) percent in Richland County. Most larvae n second and third instars but ranged from first through fourth. ne pupa found in St. Clair County no-till corn. (Ill. Ins. Rpt.). NDIANA - One west-central district field in Tippecanoe County 20 ercent infested (based on shot-holes) with 2-3 first and second- nstar larvae per infested stalk. (Matthew).

ENTUCKY - European corn borer larvae in whorls or already in talks of corn. Corn averaged about 25 inches tall and in good ondition; however, moderate infestations noted in Woodford and ırdin Counties. (Barnett, Gregory). MISSOURI - Surveys in north- entral area showed leaf feeding on 4-64 percent of plants. Larval ɔunts ranged 0.5-2.1 second and third-instar larvae per infested ant. (Munson). KANSAS - On older corn, percentages of stalks nfested 60 percent in 60-inch Pottawatomie County corn, 28 rcent in tasseling Shawnee County corn, and 36 percent in -inch Jefferson County corn. No pupae found but many larvae aring maturity. (Bell). ARKANSAS - Larvae and pupae collected om corn in Boone County. Indicates pupation of first genera- on underway in northern area. (Boyer). SOUTH CAROLINA - Larvae maged corn in home garden in Abbeville County. This is a new unty record. (McCaskill).

ɔUTHERN CORNSTALK BORER (Diatraea crambidoides) - DELAWARE - nfestations in early corn in one Sussex County area very heavy. nis species noticeably increased in abundance over last 3-4 years. Burbutis).

LACK CUTWORM (Agrotis ipsilon) - IOWA - Late-instar larvae maged 5 percent of 12-inch corn in 40-acre Dallas County field. mage required replanting of 12 to 15-acre section of Harrison ɔunty field. Late instars damaged corn in Crawford County. Bait ving only partial control. (Iowa Ins. Sur.). INDAIANA - Corn sually past susceptibility of injury at this time, but due to te planting necessitated by excessive rains, some damaged fields ɔserved in Fountain, Jasper, Cass, and Grant Counties. Larvae nged from 3 per 100 stalks in Fountain and Cass Counties to 3 rvae per 25 plants in Jasper County. No larvae found in Grant ɔunty. Some plants will outgrow injury. (Turpin).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - KANSAS - Initial adult emergence underway in Stevens, Pottawatomie, and Jefferson Counties. Counts per 25 corn plants averaged 1, 0.5, and 5 respectively, in these counties. (Bell). NEBRASKA - Full-grown larvae and pupae common in 278 Clay County fields week ending June 21. Larvae averaged 0.8 per plant; 32 of 278 fields had 5+ larvae per plant and recommended for emergency treatment at layby No rootworms noted in 99 fields. (Gary, Keith).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Populations generally light in most grain sorghum areas. Heavy populations noted in some late fields in Hill and Ellis Counties. Growers in central and north-central areas urged to check blooming grain sorghum during next 14 days to determine if damaging populations present. Damage to fields in south-central area ranged from very light to moderate. (Hoelscher et al.).

BANKS GRASS MITE (Oligonychus pratensis) - TEXAS - Present in sorghum and cornfields in Bailey, Lamb, and Hale Counties. Light infestations also noted in Reeves County. (McIntyre et al.). COLORADO - Light on lower three leaves of corn in fields in Pueblo, Crowley, Otero, Bent, and Prowers Counties. (Schweissing)

TURF, PASTURES, RANGELAND

A SKIPPER (Thymelicus lineola) - MICHIGAN - Larvae common and damaging grass hayfields in Chippewa County. Heavy in wet areas and areas of sparse stand, where up to 4-5 per timothy plant noted. Heavily infested areas in some fields treated and some fields suffered losses. (Hutchinson). Larvae observed feeding in old hayfields and fence rows, and migrating into corn at Presque Isle, Presque Isle County. Also observed at Alpena, Alpena County in small grains and grasses. Larvae about full grown, pupation expected soon. Only one generation occurs per year. (Sauer).

BLUEGRASS BILLBUG (Sphenophorus parvulus) - NEBRASKA - Larvae ranged 3-33 (average 18) per square foot in sod field near Plattsmouth, Cass County, week ending June 21. Larvae ranged 3-24 (average 14) per square foot in sod at Lincoln, Lancaster County. (Kindler).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - WASHINGTON - Up to 8 larvae per sweep noted in untreated alfalfa seed fields June 9 and 15 per sweep June 25 in Touchet area of Walla Walla County. (Johansen, Mayer). UTAH - Egg counts still unusually heavy, much heavier than normal in northern area alfalfa. Very few new adults emerged but pupal cases numerous. Damage to alfalfa moderate in Beaver, San Juan, and Grand Counties. (Davis et al.). NEW MEXICO - Increased in alfalfa near Grants, Valencia County. Counts per 25 sweeps averaged 44 larvae and 2 adults. (N.M. Coop. Rpt.). ARKANSAS - Larvae light, less than one per sweep, in alfalfa on farm in Washington County; no adults taken. Counts far below economic level. (Boyer). NEBRASKA - Adults ranged 0-120 (average 35.4) and larvae 0-3 (average 1.6) per 120 sweeps in 14 Otoe County alfalfa fields (all regrowth or second cutting) week ending June 21. Activity generally light in eastern area. (Manglitz, Stevens

ISCONSIN - Alfalfa weevil caused some damage to alfalfa in north-
ast area, but still below economic level. Some damage combination
f Hypera postica and H. meles (clover head weevil). Little treat-
ent for H. postica justified in State this season. Change in
ncidence of parasitism by Bathyplectes curculionis (an ichneumon
asp) observed. H. postica larvae collected June 24 in western
ane County fields showed 43 percent parasitism. Larvae collected
une 4 in southern Trempealeau County showed 53 percent parasitism.
Wis. Ins. Sur.). MICHIGAN - Larvae found throughout Menominee
ounty alfalfa field June 24. Damage minor. Collected by R.
reyer. Determined by J.H. Newman and R.J. Sauer. This is a new
ounty record. (Sauer). NEW YORK - Pupae averaged less than one
range 0-1) in 4-inch stubble alfalfa field about one acre in
ize on Game Farm Road near Ithaca, Tompkins County; based on
ample of 8 square feet. (Cooley).

EA APHID (Acyrthosiphon pisum) - FLORIDA - About 2,000 nymphs
nd adults collected in 100 sweeps of blooming alfalfa at
ainesville, Alachua County. Many fold increase in past 14 days.
Fla. Coop. Sur.). ARKANSAS - Counts continued light in northwest
rea legumes; expected to decrease as season advances. (Boyer).
HIO - Heaviest counts in western area alfalfa found in following
ounties: Logan and Miami 3-4 per sweep; Auglaize one per sweep;
hampaign less than one per sweep. (Fox). UTAH - Moderate in
eaver County alfalfa. (Esplin). NEVADA - Required treatment on
00 acres of alfalfa seed at Jungo, and treatments underway on
lfalfa seed with up to 100 per sweep at Orovada, Humboldt County.
Stitt). Ranged 50-70 per sweep on alfalfa hay in Lund and
reston area, White Pine County. Averaged up to 200 per sweep in
ncut alfalfa hay fields in Douglas County. (Barclay). WASHINGTON -
. pisum and Macrosiphum creelii (an aphid) noted at up to 100
er sweep in alfalfa seed fields. Ranged from 90 percent pink
orms in treated light populations to one percent in untreated
eavy populations in Touchet area of Walla Walla County. (Johansen,
ayer).

HREECORNERED ALFALFA HOPPER (Spissistilus festinus) - FLORIDA -
ne nymph and 64 adults collected in 100 sweeps of blooming alfalfa
t Gainesville, Alachua County. Population unchanged from level
f 14 days ago. (Fla. Coop. Sur.).

OTTON

OLL WEEVIL (Anthonomus grandis) - TEXAS - Infestations continued
o cause concern in Rio Grande Valley and central and north-
entral areas. Damaged-square counts ranged 5-20 percent in fields
n Coryell, Bell, Falls, Hill, Navarro, and McLennan Counties with
solated fields ranging up to 50 percent. Punctured squares in
ill and Ellis Counties ranged 5-10 percent. Heavy damage noted in
allas, Kaufman, Collin, Hunt, Delta, and Ellis Counties. Isolated
ields in Hunt and Dallas Counties had 60-90 percent punctured
quares. Light overwintered populations reported from fields in
nox, Foard, Fisher, and Wilbarger Counties. In several older Knox
ounty fields up to 5 percent of squares punctured by overwintered
eevils. Punctured-square counts in south-central area ranged up
o 65 percent in some fields. (Parker et al.).

RKANSAS - Most boll weevil traps no longer being operated. Catches
eported from only 3 counties; 8 weevils taken in 34 traps for
verage of 0.23 weevil per trap. (Boyer). MISSISSIPPI - Punctured
quares increaded in Noxubee, Lowndes, and Webster Counties. Some

fields with up to 40 percent punctured squares in "hotspots" near overwintering quarters. Full-grown larvae found in some fallen squares, no pupae found. Expect first generation to begin emergin from squares second week in July in Webster and Noxubee Counties. (Robinson). TENNESSEE - Observed feeding in cotton terminals of fields surveyed in central area. (Cagle).

BOLLWORMS (Heliothis spp.) - TEXAS - H. zea (bollworm) increased during past week. Heavy infestations noted in Rio Grande Valley near Mission, Hidalgo County. Ranged 0-34 per 100 plants. Some growers in Brazos and Burleson Counties noted increased activity. Light populations noted in north-central area and in Trans-Pecos area. (Hoelscher et al.). ARKANSAS - Outbreak of Heliothis spp. in cotton in some fields reported in Chicot County; confined to fields which had been treated with low dosage of insecticides for other cotton pests. (Boyer). MISSISSIPPI - Heliothis spp. eggs averaged 0.5 percent and larvae 0.7 percent in Coahoma, Bolivar, and Sunflower Counties. (Oakman). Eggs ranged 0-3 percent in Leflore, Grenada, and Yalobusha Counties; up to 20 percent of terminals with eggs in spotty areas of cotton located near corn in Noxubee County. In one 90-acre field in Noxubee County, which was treated for boll weevil, larvae ranged 5-10 percent over field Treatment for bollworm larvae necessary. (Robinson). TENNESSEE - Counts per 100 terminals ranged 0-2 eggs and 0-1 larva in fields surveyed in central area. Some damage to pinhead squares observed. (Cagle).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Built up in about 800 acres of cotton at San Simon, Cochise County. Averaged 1.5 per plant on each 50 plants checked. (Ariz. Coop. Sur.).

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) - TEXAS - Increased throughout most cotton-growing areas. Moderate to heavy in most central area fields. Most fields have set large number of squares with only scattered reports of damage noted on early cotton. Several fields in Hill and Ellis Counties noted with 100 percent of terminals infested. Infestations in Kaufman County ranged 10-20 per 100 plants. Fields in Hunt and Collin Counties ranged 4-27 per 100 plants. Increased activity also noted in Trans-Pecos and High Plains areas. In Glasscock County, ranged 1-4 per 100 plants in isolated fields. Infestations of 12-20 per 100 terminals reported from fields in Knox and Fisher Counties. Fleahoppers very heavy in most south-central fields. (Buxkemper et al.).

TOBACCO

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - KENTUCKY - Statewide, damage to tobacco appears to be lighter for this time of year and state of development than in 1973. Heavier damage noted in norther areas, especially Boone County. (Barnett).

POTATOES, TOMATOES, PEPPERS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - MINNESOTA - Adults and eggs increased in potato-growing areas of Red River Valley. If systemics not giving control, potential exists for damaging populations. Growers should check for small larvae. Weather in valley now warm and dry, favoring emergence and growth. (Minn. Pest Rpt.).

ARIEGATED CUTWORM (Peridroma saucia) - OREGON - Small larvae oted in Haig and Norchip potato fields on Sauvie Island, ultnomah County. Infestations very spotty on 100 acres. cattered areas with 2-3 damaged plants, with 1-2 larvae per lant observed. (Collins).

EANS AND PEAS

ESSER CORNSTALK BORER (Elasmopalpus lignosellus) - SOUTH AROLINA - Damaged lima beans in Bamberg County. Collected by .O. McAlhany. Determined by C.A. Thomas. This is a new county ecord. (McCaskill).

ENERAL VEGETABLES

EEDCORN MAGGOT (Hylemya platura) - MICHIGAN - Caused severe amage throughout State. At least two Mason County snap bean ields and two Allegan County cucumber fields lost or severely amaged. Severe damage also reported in Berrien County. (Cress).

ETECTION

ew State Records - A TUSSOCK MOTH (Dasychira basiflava) - WEST IRGINIA - Hampshire County. (p. 506).

ew County Records - ALFALFA WEEVIL (Hypera postica) MICHIGAN - enominee (p. 503). EUROPEAN CORN BORER (Ostrinia nubilalis) OUTH CAROLINA - Abbeville (p. 501). AN ICHNEUMON WASP Bathyplectes tristis) KANSAS - Morris (p. 508). LESSER CORNSTALK ORER (Elasmopalpus lignosellus) SOUTH CAROLINA - Bamberg (p. 505). MYMARID WASP (Anaphes flavipes) PENNSYLVANIA - Centre. WEST IRGINIA - Wetzel (p. 508). SMALL EUROPEAN ELM BARK BEETLE Scolytus multistriatus) CALIFORNIA - Lassen, Modoc (p. 506).

DECIDUOUS FRUITS AND NUTS

PECAN PHYLLOXERA (Phylloxera devastatrix) - TENNESSEE - Continued to damage pecan trees in western area. (Locke).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - TENNESSEE - Immatures observed feeding on pecan and wild cherry trees in western area. Unusual for time of year. (Locke).

FOREST AND SHADE TREES

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - MICHIGAN - Damage to pines evident, pupae observed in dead shoots. Adult emergence expected soon. Populations seem heavier this year in Shiawassee County. (Mosher).

A TUSSOCK MOTH (Dasychira basiflava) - WEST VIRGINIA - Ten larvae found under burlap band on white oak tree at Capon Bridge, Hampshire County, June 17, 1974, by P. Van Buskirk. Determined by A.R. Miller. This is a new State record. (Miller).

A MARGARODID SCALE (Matsucoccus acalyptus) - NEW MEXICO - Very heavy damage caused some tree mortality on 1,000+ acres of pinyon pine near Gallup, McKinley County. Also caused tree mortality on 300 acres near Questa, Taos County. (N.M. Coop. Rpt.).

WESTERN TENT CATERPILLAR (Malacosoma californicum fragile) - NEW MEXICO - Outbreak on about 6,000 acres of aspen near Chama, Rio Arriba County, apparently subsided due to natural causes. Very few tents noted with larvae in final instar. Adults flying. (N.M. Coop. Rpt.).

ELM LEAF BEETLE (Pyrrhalta luteola) - TEXAS - Moderate infestation continued to skeletonize foliage of Chinese elm trees in Reeves, Pecos, Ward, Andrews, Ector, Midland, Martin, Brewster, Jeff Davis and Glasscock Counties. (Neeb). NEW MEXICO - Defoliation moderate to heavy to all elms throughout State. All larval instars, pupae, and adults laying eggs reported. (N.M. Coop. Rpt.). CALIFORNIA - Larvae infested elm trees at Lakeside, San Diego County, and larvae and adults fed on foliage of untreated trees at Sacramento, Sacramento County. Foliage damage to point that 60-80 percent of trees infested will be defoliated by mid-July. (Cal. Coop. Rpt.).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - CALIFORNIA - Infestations on Chinese elms ranged up to 1,000 adults per stem and limb in Johnsville, Lassen County, and up to 200 larvae per limb in Alturas, Modoc County. These are new county records and of much concern due to Dutch elm disease being reported in neighboring State. (Cal. Coop. Rpt.).

PERIODICAL CICADA (Magicicada septendecim) - MASSACHUSETTS - Active, heavy, and ovipositing on many maple trees and shrubs in upper Cape Cod, Barnstable County. (Tomlinson). NORTH CAROLINA - Heavy flagging of oak twigs at Old Fort, McDowell County, and Asheville, Buncombe County. Observations show heaviest damage occurred in Oteen section of Asheville; shade trees (usually oaks) had 60-90 percent of terminal twigs injured, depending on tree size. Most severely infested area in Oteen section roughly one mile by one mile in size with spot infestations scattered north and

outh of Asheville. (Bowers, Hunt). KENTUCKY - Periodical cicada viposition punctures damaged various tree species in eastern and outhern areas. Most trees in these areas with some egg punctures. n heavier infested area (Grant, Anderson, Owen, Rowan and other ounties) 75-90 percent of twig tips broken and dead. Specimens ollected in Butler, Taylor, Rockcastle, Campbell, McCreary, agoffin, and Pike Counties. (Barnett). TENNESSEE - Caused much amage to maple trees and rose bushes in western area. (Locke).

AN AND ANIMALS

CREWWORM (Cochliomyia hominivorax) - Total of 150 cases reported rom continental U.S. during period June 9-15 as follows: Texas 36, New Mexico 3, Arizona 11. Total of 272 cases confirmed from exico. Number of sterile flies released in U.S. this period otaled 140,466,000 as follows: Texas 121,870,000; New Mexico 20,000; Arizona 16,776,000; California 1,080,000. Total of 5,137,400 sterile flies released in Mexico. (Anim. Health).

ACE FLY (Musca autumnalis) - MISSISSIPPI - Adults reported for irst time on cattle in Yalobusha and Webster Counties. These are ew county records. Individual cows in some herds with up to 12-15 lies per face. (Robinson). KENTUCKY - Averaged 15 per animal on ayette County cattle. (Barnett). INDIANA - Adults ranged 0-35 per ace on 10 black cattle in Grant County with most counts at upper evel. (Dobson). ILLINOIS - Ranged 4-8 per animal in central ection, noted at 4 per animal in northern section. (Ill. Ins. pt.). MISSOURI - Averaged 13, 19, and 20 adults per animal on hree north-central area herds. (Munson).

ORN FLY (Haematobia irritans) - KENTUCKY - Averaged 150 per nimal on livestock in Fayette County. (Barnett). FLORIDA - veraged 158 per side on beef cattle at Gainesville, Alachua ounty. (Fla. Coop. Sur.). INDIANA - Decreased, ranged up to 15 er animal on 10 black cattle in Grant County. (Dobson). LLINOIS - Ranged 0-30 per animal in northern section and 20-40 in entral section. (Ill. Ins. Rpt.). IOWA - Ranged 10-60 (average 5) per head on untreated cattle of Story County herd. (Iowa Ins. ur.). TEXAS - Light to moderate infestations noted on cattle and heep throughout Trans-Pecos area. Increased populations also oted in central and north-central areas. Heavy populations eported on cattle in Baylor, Wichita, and Wilbarger Counties. ncreased significantly over past week in Panhandle area. Neeb et al.). UTAH - Annoyed cattle in Washington and Box Elder ounties. (Knowlton).

TABLE FLY (Haematobia irritans) - WISCONSIN - Continued to cause ight to moderate annoyance to Polk County cattle; treatment nderway. (Wis. Ins. Sur.). ILLINOIS - Noted at 11 per animal in orthern section, ranged 3-4 per animal in central section. Ill. Ins. Rpt.).

OSQUITOES - MINNESOTA - Light trap and bite collections in Metro-olitan Mosquito Control District indicate increasing problems as esult of rains during June. Aedes vexans accounted for 490 of 35 females trapped; 54 A. abserratus and 52 A. cinereus also aken. Total of 18 species taken in light-trap collections. (Minn. est Rpt.). TENNESSEE - Continued to increase in all areas of tate. Nuisance in many areas during late afternoon. (Gordon).

UTAH - Mosquitoes annoying below Porcupine Dam in East Canyon and in fields in Mendon and Benson area of Cache County. Severe in Moab area, Grand County, and in parts of Rich County. (Knowlton, Edwards).

AMERICAN DOG TICK (Dermacentor variabilis) - TENNESSEE - Heavy populations observed in Carroll, Gibson, Weakley, and Henry Counties. Collected and determined by C.R. Patrick. (Gordon). Heavy populations observed in many areas in central and western parts of State. (Cagle, Locke).

BENEFICIAL INSECTS

A LADY BEETLE (Ceratomegilla maculata) - NEW YORK - Numerous adul observed on spinach on Savannah muck, Wayne County. No aphids, common prey for beetles, noted. Chance presence of beetles causin problem for processors in eliminating them from processed spinach packs. (Davis).

AN ICHNEUMON WASP (Bathyplectes tristis) - KANSAS - This parasite of Hypera punctata (clover leaf weevil) taken from Morris County alfalfa November 7, 1973. Collected by K.O. Bell, Jr. Determined by R.W. Carlson. This is a new county record. (Bell).

A MYMARID WASP (Anaphes flavipes) - PENNSYLVANIA - This egg parasitoid of Oulema melanopus (cereal leaf beetle) collected in Centre County June 13, 1974, by W.O. Keim. Determined by T.L. Burger. As no previous releases made in Centre County, this is a new county record. WEST VIRGINIA - Collected in Wetzel County June 9, 1974, by A. Tustin. Determined by T.L. Burger. As no previous releases made in Wetzel County, this is a new county record. Recovered for first time since originally released in Greenbrier, Jackson, Monongalia, Morgan, Ohio, Preston, and Randolph Counties (Burger).

A EULOPHID WASP (Tetrastichus julis) - NEW YORK - This larval parasitoid of Oulema melanopus (cereal leaf beetle) recovered for first time in Monroe and Livingston Counties. PENNSYLVANIA - Recovered for first time at 2 general release sites in Clarion County. (Burger).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CEREAL LEAF BEETLE (Oulema melanopus) - NEW YORK - Very noticeable in many western and central areas; only some fields needed treatment. Larvae averaged 3 (range 1-9) and 2 (range 1-5) per square foot in two 18-inch high and heading oatfields, each about 15 acres in size on Duboise Road, Tompkins County; based on sample of 64 square feet per field. Larvae averaged less than 1 (range 0-1) per square foot in three 12-inch high oatfields, each about 6 acres in size on Glenwood Heights Road, Tompkins County; based on sample of 16 square feet per field. (Sliwa). Larvae averaged 23 per square foot in 12-inch tall oatfield on Hay Road near Nunda, Livingston County. Yield reduction estimated at about 6 percent. (LeMaire).

A GRASS BUG (Irbisia pacifica) - UTAH - Moved from damaged Elymus cenerus to crested wheatgrass in White Valley, Box Elder County. Populations decreased in some lower areas. (Haws, Knowlton).

ASSHOPPERS - MINNESOTA - Localized economic infestations in tchbanks, roadsides, and occasionally in field margins found in rthwest Polk, western half of Marshall, and southwest Kittson unties; ranged up to 20-30 per square yard. Nymphs in second star and when dispersed into adjoining fields density will be ch reduced. Limited amount of spraying done, but each grower st evaluate own situation and determine if treatment necessary. inn. Pest Rpt.). KANSAS - Five pastures surveyed in Kiowa and mmanche Counties showed negligible infestations except in margins some pastures in Commanche where up to 5 nymphs per square yard ted. Margins of some cropland in these counties had up to 8 per uare yard. (Bell). NEW MEXICO - Populations increased in alfalfa, eraged 46 per 25 sweeps. (N.M. Coop. Rpt.).

AH - Grasshoppers numerous in small grains and on rangeland, rticularly in Stansbury Mountains and East Hickman Creek, Tooele unty; spotty in Salt Lake, Weber, Davis, and Cache Counties. ntrols needed in several Juab County range and cultivated areas. mphs ranged 30-40 per square yard in area near Avon and in mouth Black Fork Canyon in Cache County. Serious problem in Hill eld area of Weber and northern Davis Counties. (Knowlton et al.). VADA - First through fifth-instar Melanoplus sanguinipes nymphs eraged 8 per square yard on 40 acres of alfalfa hay in Newark lley, White Pine County. (Barclay, Marion).

LIFORNIA - Grasshoppers more evident this season than in past 3 ars. In Sacramento and San Joaquin Valleys, problems in crops quired some treatment. No large scale outbreaks in rangeland eas reported. In Glenn County, 1,165 acres of Federal lands and 0 acres of private lands have significant populations. In ndocino County, 80 acres of Federal lands need treatment. In g Bar area of Shasta and Trinity Counties, defoliation severe 85 acres of conifer forest land but will not be treated due to vanced stage of grasshoppers and damage done. (Cal. Coop. Rpt.). SHINGTON - Very heavy populations of Camnula pellucida hatched d moved from small localized egg beds in Okanogan County. Control ll probably be on local basis without Federal or State aid. ackson). MONTANA - Grasshoppers fed on spring wheat and barley rips in Valley County; partially infested 1,900 acres. (Pratt).

RMON CRICKET (Anabrus simplex) - UTAH - Light in spots over 100 res in Hickman Creek and Stansbury Mountains area of Tooele unty; Cedar Point and Bug Point, San Juan County. (Stephens, wards). NEVADA - Treatments applied to 832 acres of rangeland Cold Springs Valley and in Red Rock area, Washoe County. rtality counts indicated 90 percent control. (Nev. Coop. Rpt.).

PANESE BEETLE (Popillia japonica) - CONNECTICUT - Adult ergence began week ending June 21. (Savos). DELAWARE - Adults merous in most areas. (Burbutis). WEST VIRGINIA - First adults season observed in Mason County June 27. (Hacker). GEORGIA - avy in De Kalb, Fulton, Cobb, Clayton, and Fayette Counties. idley). Trap collections show infested area extended from river ttom to highland areas in north Bibb County. (Batson). Observed Haddock, Jones County, after year of no infestation. (Greer, ne 21). ILLINOIS - Newly emerged adults found in St. Clair unty on poison ivy, sumac, and grapes. (Ill. Ins. Rpt.).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Three percen infestation noted in one Yuma, Yuma County, cotton field. Six-day treatment program initiated. Specimens hard to find in sparse flowers at Safford, Graham County. (Ariz. Coop. Sur.).

WHITEFRINGED BEETLES (Graphognathus spp.) - GEORGIA - Larvae damaged 20 percent of butter beans and butter peas and 10 percent of okra, squash, cantaloupe, and watermelon plants in 1.5-acre garden in Peach County week ending June 21. (Elder). Several gardens replanted in Ben Hill County due to larval damage. (Lee). Heavy adult infestation damaged flower gardens in Bibb County. (Ridley).

HAWAII INSECT REPORT

General Vegetables - Infestations of LEAFMINER FLIES (Liriomyza spp.) variable on number of crops on Oahu. Heavy in small snap bean planting at Waimanalo. An estimated 90 percent of leaves infested; 20-40 percent of leaf area of infested leaves damaged. Moderate in small planting of snap beans at Kahaluu and in one acre of green onions at Waianae. About 40 percent of snap beans and 25 percent of green onion leaves infested. Damage variable but generally light. Light in small bell pepper planting at Waiana less than 5 percent leaves infested; 1-2 mines per leaf. CARMINE SPIDER MITE (Tetranychus cinnabarinus) infestations variable in eggplant and snap beans on Oahu. Moderate in small plantings of eggplant at Waianae and Kahaluu. Estimated 50 percent of leaves infested, 10-20 mites per square inch of leaf surface. Light infestation observed on snap beans at Waimanalo. Infestation in planting of snap beans at Kahaluu near nil. Less than 10 percent o leaves at Waimanalo infested, less than 5 mites per square inch of leaf surface. (Ito, Mau). All stages of GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) heavy on eggplant at Waianae, Oahu. Nearly all leaves infested; young leaves infested with eggs and adults, older leaves with nymphs and pupae. Light infestation of adults and eggs observed on small snap bean planting at Waimanalo, Oahu; no nymphs or pupae observed. Less than 5 percent of leaves infested. ONION THRIPS (Thrips tabaci) light on about 0.5 acre of Manoa lettuce at Waianae; 20 percent of inspected heads infested, only 2-3 thrips observed on each infested plant. Damage heavy; about 60 percent of heads exhibited damage. TARO LEAFHOPPER (Tarophagus proserpina) light in about one acre of taro at Kahaluu Oahu. Average of 5 nymphs observed in each inspected leaf axil. Nymphs and adults of an egg predator, Cyrtorhinus fulvus (a predacious mirid bug) also present in comparable numbers. GREEN PEACH APHID (Myzus persicae) light in small plantings of eggplant and mustard cabbage at Waianae. About 60 percent of the eggplant leaves infested with 3-6 aphids on each infested leaf. Also parasitized aphids observed on several infested eggplant leaves. Less than 10 percent of mustard cabbage plants infested. (Mau).

Ornamentals - Damage by SOUTHERN GREEN STINK BUG (Nezara viridula) moderate on about 8,000 vanda orchid plants at Wailuku, Maui. Estimated 30 percent of buds damaged by nymphs and adults. Weed hosts in all areas of Wailuku and Kahului, Maui, drying due to local weather conditions, and increase in N. viridula damage to vanda buds noticed. (Miyahira).

Beneficial Insects - Thousands of CONVERGENT LADY BEETLE (Hippodami convergens) adults attracted to person wearing a white T-shirt, and other similarly colored objects at 13,700 feet elevation of Mauna Kea on Hawaii Island. (Matayoshi).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL - blacklight, I - incandescent, MV - mercury vapor, O - other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Mandura quinquemaculata (tobacco hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARKANSAS																								
Pine Bluff 6/20-26			BL						4	36														
Dell 6/16-22			BL							27														
ARIZONA																								
Mesa 6/17-23			BL	108														81		422		32	22	
FLORIDA																								
Gainesville 6/21-27			BL					6	1	2									1	3	1	5		
ILLINOIS (County)																								
Ogle 6/18-24																	21	33	646					
INDIANA (Districts)																								
South West 6/14-20			2BL	35													1	133	649					
West Central 6/14-20			2BL	1													3	5	65					
KANSAS																								
Great Bend 6/19-24			BL	80		8				7								33	35			9		
KENTUCKY																								
Lexington 6/21-28				15														5	121			1		
MICHIGAN (Counties)																								
Lenawee 6/18-24			BL	14													116	22	313					
Oceana 6/15-23			2BL	20													155	52	338					
MINNESOTA																								
Fergus Falls 6/19-25			BL																4					
Worthington 6/19-25			BL																18					
MISSISSIPPI																								
Stoneville 6/21-27	56-93	0.08	2BL	15				20	3	35						1		9	150		1	37	1	
NEW HAMPSHIRE																								
Lee 6/24																	1		1					

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (salt marsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
NEW JERSEY																								
Seabrook 6/19-25			7BL	23						5														
Vineland 6/19-25			7BL	17						2							1							
NEW MEXICO																								
Las Cruces 6/21-28										15					4									
OHIO																								
Wooster 6/22-28			3BL	55													35	58	1088					
OREGON (Counties)																								
Linn 6/20-26			BL	2														19						
Marion 6/20-26			BL															40						
PENNSYLVANIA (District)																								
South East 6/16-24			BL	6													4	2	127					
SOUTH DAKOTA																								
Brookings 6/20-26			BL	7															27				1	
TENNESSEE (Counties)																								
Hardeman 6/24-28			BL	2					1	3								43	110			23	2	
Madison 6/24-28			BL	2														6	54			9	1	
WEST VIRGINIA (Counties)																								
Jefferson 6/27			BL	3														1	40					
Ohio 6/23			BL	3														3	10					
WISCONSIN																								
Hancock 6/20-25			BL														29	1	5					
Mazomanie 6/20-26			BL																4					

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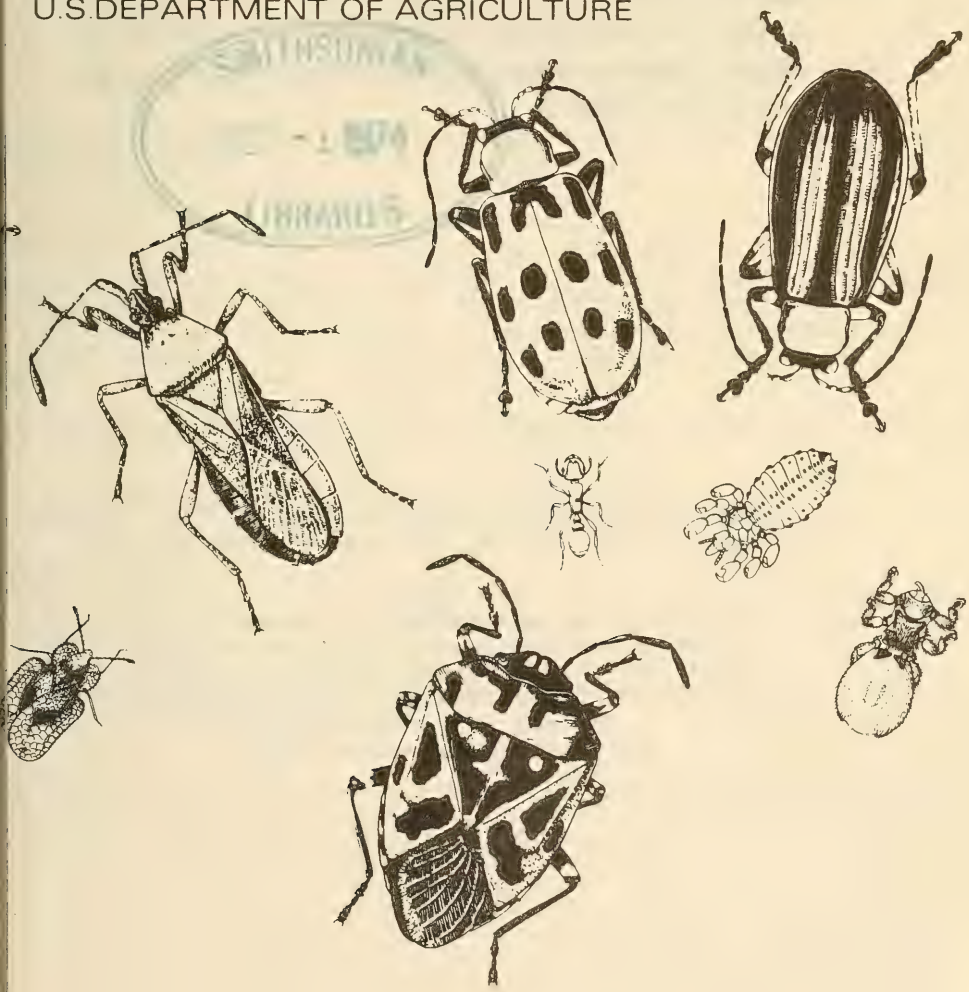

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Hyattsville, Maryland 20782

olume 24 July 12, 1974 Number 28

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

urrent Conditions

ORN EARWORM adult activity expected to increase on Maryland astern Shore. GREENBUG reported on milo in many areas of South akota, growers advised to check for damaging populations. POTATO EAFHOPPER heavy on potatoes in Michigan, first nymphs of season oted in alfalfa in Wisconsin. (pp. 515-516).

irst generation of EUROPEAN CORN BORER may be lightest in many ears in Minnesota. Some adult emergence noted on Eastern Shore f Maryland. CORN ROOTWORM larvae reported in Iowa and Wisconsin. p. 517).

OLL WEEVIL and BOLLWORM continued concern on cotton in Rio Grande alley of Texas. (pp. 519, 520).

OLORADO POTATO BEETLE adult and larval feeding pressure very eavy on tomatoes on Maryland Eastern Shore. (p. 521).

opulation explosion of EUROPEAN RED MITE expected across fruit elt of Michigan due to recent hot weather. (p. 522).

ORN FLY decreased on livestock throughout most areas of Texas ue to hot weather.

etection

eport of the collection of EUROPEAN ALFALFA BEETLE in Pennsylvania n 1972 predates report in New Jersey as first record in the nited States and North America. This phytophagous coccinellid is urrently known to occur in 5 counties in Pennsylvania and 4 ounties in New Jersey. (p. 518).

ew State records include CEREAL LEAF BEETLE in Delaware (p. 525) nd a PSYLLID in Pennsylvania (p. 523).

or new county and island records see page 526.

pecial Reports

phis in the Pine Barrens of New Jersey (Homoptera: Aphididae). p. 530).

stimates of Damage by the European Corn Borer to Grain Corn in he United States in 1973. (p. 535).

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PECIAL INSECTS OF REGIONAL SIGNIFICANCE

STER LEAFHOPPER (Macrosteles fascifrons) - WISCONSIN - Generally ight in treated potatoes and beans in central district. In grain, veraged less than 10 per 100 sweeps in fields checked that were eginning to head. (Wis. Ins. Sur.).

EET LEAFHOPPER (Circulifer tenellus) - COLORADO - Infestations anged light to moderate in beetfields in Delta, Montrose, and esa Counties; counts ranged 0.2-1.8 per square foot of beet row. Bulla). UTAH - Very light on Bassia spp. and mustards on range- ands in Curlew Valley, southern Box Elder County. (Knowlton). ALIFORNIA - Tomatoes checked in Imperial Valley revealed no urly-top damage. Leafhoppers ranged 0-2 per 10 sweeps in sugar eets not yet harvested. Leafhoppers ranged 50-60+ per 10 sweeps n weed hosts (mainly Chenopodium sp.) adjacent to beets; ranged -4 per 10 sweeps on other weed hosts (Bassia spp. and Heliotrope pp.). Most Chenopodium spp. found in wheat stubble fields; these eing burned over, should control most leafhoppers on host weeds. Cal. Coop. Rpt.).

ORN EARWORM (Heliothis zea) - MARYLAND - Adult flight very light. arval infestations in sweet corn less than one percent in icomico, Somerset, and Worcester Counties. Adult activity xpected to increase next 14 days. (U. Md., Ent. Dept.). IRGINIA - Populations very light in corn, some eggs laid on ilks in Isle of Wight County. (Burt, Allen). ALABAMA - Larvae anged 1-3 per ear in 100 percent of corn ears checked at ocation in northern Crenshaw County. (Seibels). ARKANSAS - urveys for this species and Celama sorghiella (sorghum webworm) egative in blooming sorghum in Conway County. (Boyer).

ORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Moderate on orn in McCurtain, Muskogee, Okmulgee, and Wagoner Counties. Okla. Coop. Sur.). UTAH - Heavily infested some Millard County pring barley fields as heads emerged from boot, and barley at ephi, Juab County. (Knowlton et al.).

REENBUG (Schizaphis graminum) - TEXAS - Infestations in grain orghum light to moderate in Knox County. Populations extremely ight for time of season in Lubbock area. Ranged up to 150 per lant in Hale County; averaged 10 per plant in fields. Populations veraged less than one per plant in many fields. Few, if any, ields will need treatment if plant trend continues. (McIntyre, atham). ARKANSAS - Survey negative in blooming sorghum in Conway ounty. (Boyer). OKLAHOMA - Ranged up to 300 per leaf on Caddo ounty sorghum week ending June 28. Scattered light infestations resent in Texas County. Currently, only light scattered infesta- ions found in sorghum checked in Kiowa and Greer Counties. Also cattered and light in Texas County. (Okla. Coop. Sur.).

EBRASKA - Slight population increase of greenbug noted in 260 lay County milo fields checked week ending June 28. Ranged 1-200 average 1.5) on 15 percent of plants. No treatment needed and no arasitized specimens found. Very light activity noted in Lincoln nd surrounding counties. Averaged about 50 per plant in several to 8-inch tall milo fields in Boyd County. In 210 Clay County ields checked week ending July 5, counts ranged 0-500 (average 3) er plant. About 25 percent of plants infested. Occasional mummies bserved, but parasitism by Lysiphlebus testaceipes (a braconid

wasp) remained well below one percent. (Keith et al.). SOUTH DAKOTA - Many areas report infestations of greenbug on milo. Specimens observed from Brookings, Brookings County, to Redfield, Spink County, and over entire grain sorghum growing area on young seedlings. Situation varies from field to field, some fields need treatment. Many reports noted greenbug on spring wheat and some on barley. These crops should be observed for next 14 days for damaging populations. (Kantack et al.).

POTATO LEAFHOPPER (Empoasca fabae) - MARYLAND - Activity throughout State light to moderate. "Hopperburn" in garden potatoes and snap beans found in all areas. Alfalfa fields in Frederick and Carroll Counties beginning to yellow. Counts varied considerably with heaviest infested fields ranging 12-20 leafhoppers per sweep. (U. Md., Ent. Dept.). INDIANA - Average adult counts per 10 sweeps of alfalfa by county: Daviess 16 in 2 fields; Dubois, 5 in two 20-inch tall fields; Harrison 8 in four 23-inch tall fields; Washington, 9 in five 16-inch tall fields; Jackson, 13 in eight 14-inch tall fields. Counts ranged 1-36 per 10 sweeps. (Meyer). MICHIGAN - Heavy, ranged 8-10 adults per plant in Allegan County potato fields. Also observed in Berrien County. Treatment recommended. (Cross).

WISCONSIN - First potato leafhopper nymphs of season noted in advanced second-growth alfalfa in Dane and Walworth Counties. Counts much below one per sweep, except in exceptional fields. Development will probably accelerate with warmer temperatures. Increased slightly but still less than 10 per 50 sweeps in beans and potatoes. (Wis. Ins. Sur.). MINNESOTA - Populations decreased generally to noneconomic levels. Still ranged 250-300 per 100 sweeps in several central district alfalfa fields. Many populations borderline, treatment may be advisable due to present value of alfalfa. (Minn. Pest Rpt.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - UTAH - Treatments needed in alfalfa seed fields in general area around Delta, Millard County. (Knowlton). OKLAHOMA - Light, 5 per 10 sweeps, in alfalfa checked in Jackson and Kiowa Counties. (Okla. Coop. Sur.).

TOBACCO BUDWORMS (Heliothis spp.) - TENNESSEE - Counts in 7 Trousdale County tobacco fields ranged 33-800 larvae per acre. Campoletis perdistinctus (an ichneumon wasp), a parasite of Heliothis spp., ranged 200-467 per acre in these fields. (Gordon). MARYLAND - About 5 percent of tobacco fields in St. Marys, Charles, and Prince Georges Counties infested with second and third-instar larvae of H. virescens (tobacco budworm); damaged plants ranged 1-4 percent. (U. Md., Ent. Dept.).

TOBACCO HORNWORMS (Manduca spp.) - TENNESSEE - Live larvae found in one of 7 tobacco fields checked in Trousdale County. Parasitized or dead larvae found in 2 of these fields. (Gordon). OHIO - Larval feeding damage by M. sexta (tobacco hornworm) in Brown, Clermont, and Highland Counties noted on 5-40 percent of examined tobacco plants. Foliar injury usually confined to one or two leaves per plant, not exceeding 15-20 percent of leaf. (Fox).

UROPEAN CORN BORER (Ostrinia nubilalis) - NEBRASKA - Ranged 0-10 ercent of cornplants infested in Clay County; 230 fields xamined. (Gary, Keith). IOWA - Peak oviposition occurred about une 12-14. Larvae in third instar. Central area cornfields show bout 5 percent infestation; only light damage expected. One 40-cre Lee County field treated due to 50+ percent feeding. (Iowa ns. Sur.). MINNESOTA - Emergence about complete; egg masses and atch reported only in southeast district to date. One field nfested with egg masses at one percent, trace borers in first nstar noted in another field. All indications are first generation ill be smallest in many years. (Minn. Pest Rpt.). WISCONSIN - gg masses found on advanced corn in southern counties. Larval eeding should be evident during period July 6-12. (Wis. Ins. ur.).

ARYLAND - European corn borer infestation levels in field corn anged 5-20 percent in central area with most larvae in second and hird instars. Infestation levels on Eastern Shore ranged 5-50 ercent with larvae in third and fourth instars. Pupation underway n Dorchester, Wicomico, and Somerset Counties. Some adult mergence recorded for lower Eastern Shore, but peak first-eneration flights expected next 14 days. (U. Md., Ent. Dept.). EW HAMPSHIRE - Damage in whorls of sweet corn prevalent in outhern area. (Bowman).

OUTHERN CORNSTALK BORER (Diatraea crambidoides) - MARYLAND - opulations in corn somewhat above normal in Wicomico, Dorchester, rince Georges, and St. Marys Counties. Damage evident in most ields but generally within 1-5 percent range. Larvae nearing aturity in all areas. (U. Md., Ent. Dept.).

LACK CUTWORM (Agrotis ipsilon) - WISCONSIN - Scattered infesta-ions noted in corn in southern district. Larvae large and ready o pupate in most instances; chemical controls not warranted in ost fields. (Wis. Ins. Sur.). IOWA - Larvae damaged 10-15 percent f 35-acre cornfield in Madison County. (Iowa Ins. Sur.). OREGON - arvae caused moderate damage to field corn in Halsey area of Linn ounty. (Berry). NEW HAMPSHIRE - Caused spotty damage to young ield corn in Woodsville area of Grafton County. Infested areas on and that was flooded this time in 1973 and had to be replanted. ontrols applied; appear to be effective. (Bowman).

ORN ROOTWORMS (Diabrotica spp.) - WISCONSIN - Larvae found in ntreated corn on experimental farm at Arlington, Columbia County, une 20. Larvae averaged 6 per root mass by July 1 at this location n untreated field that had 33 eggs per pint of soil in fall 1973. Wis. Ins. Sur.). IOWA - First larvae of season found in corn in remont County; third instars present. Larvae light in Lee County. evere root pruning in 40 percent of one untreated field reported n Mills County. (Iowa Ins. Sur.). MISSOURI - Adult emergence of . virgifera (western corn rootworm) reported from central and orthwest areas. Populations very light. (Munson).

OUTHERN GREEN STINK BUG (Nezara viridula) - MISSISSIPPI - Severely amaged 10-acre cornfield in Forrest County; field will not be arvested. (Byrd).

BANKS GRASS MITE (Oligonychus pratensis) - NEBRASKA - Damaged 6-inch corn in scattered Dundy County fields. Determination confirmed by W.R. Enns. Collected by J.M. Schade. (Keith).

TURF, PASTURES, RANGELAND

RANGE CRANE FLY (Tipula simplex) - CALIFORNIA - Surveys of rangeland in Tulare County showed severe damage to several thousand acres of forage for third year. Some treatment made, results partially satisfactory. Thousands of eggs easily and quickly collected as larvae had ranged up to 200 per square foot of turf Eggs collected in 1961 checked this season and found viable afte 13 years. (Cal. Coop. Rpt.).

BLUEGRASS BILLBUG (Sphenophorus parvulus) - IDAHO - Larvae about half grown caused extensive damage to lawns at Parma, Canyon County. (Waters).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - UTAH - Oviposition continued a higher than normal level for early July in northern area. Damage moderate in Juab County alfalfa. (Davis, Jones). NEW MEXICO - Larvae ranged 3-5 and adults averaged 2 per 25 sweeps in alfalfa south of Melrose, Curry County. This is a new county record. Larvae 2-4 and adults 1-3 per 25 sweeps in alfalfa near Farmingt San Juan County. (N.M. Coop. Rpt.). ARKANSAS - Larvae still present in Washington County alfalfa; noted at about 100 per 100 sweeps. (Boyer). WISCONSIN - Larvae light in second-growth alfal ranged 1-2 per sweep. Most larvae in second instar. Feeding injur observed on about 100 percent of first-growth alfalfa in some Dane County fields. (Wis. Ins. Sur.). NEW HAMPSHIRE - Damage to alfalfa more evident than in 1973, especially to second crop in fields cut early to avoid infestations and damage by Agromyza frontella (alfalfa leaf blotch-miner). (Bowman).

EUROPEAN ALFALFA BEETLE (Subcoccinella vigintiquatuorpunctata) - PENNSYLVANIA - Adult found resting on crown vetch (Coronilla varia) near Manada Hill, Dauphin County, August 15, 1972, by A.G. Wheeler. Determination confirmed by T.J. Henry. (Wheeler). This collection predates report of this phytophagous coccinellid in New Jersey (CEIR 24(22):382-383) as first record for the United States and North America. S. vigintiquatuorpunctata is now known to occur in Bergen, Warren, Hudson, and Hunterdon Counties, New Jersey, and in Lehigh, Lebanon, Berks, Dauphin, and Northampt Counties, Pennsylvania. (PPQ).

PEA APHID (Acyrthosiphon pisum) - MINNESOTA - Ranged 60-4,000 per 100 sweeps (averaged 1,400) in alfalfa. Enormous populations needed to harm plants but due to crop value close observation advised. Some second-crop alfalfa under considerable stress due t lack of moisture in central district. (Minn. Pest Rpt.). WISCONSIN - Heaviest count in alfalfa was 3 per sweep, but averag less than one per sweep in all areas surveyed. Parasitism heavy i southwest area alfalfa, lighter in Waupaca County area. (Wis. Ins Sur.). ARKANSAS - Still quite active in some northwest area alfal fields. Population rather heavy for time of year. Ranged up to 400-500 per 100 sweeps. (Boyer). UTAH - Heavy in many Beaver Coun alfalfa fields. (Esplin).

PLANT BUGS (Lygus spp.) - NEW MEXICO - Counts of 160 per 25 sweeps recorded from alfalfa in San Juan County. Some leaf spotting observed in area. (N.M. Coop. Rpt.). OKLAHOMA - L. lineolaris (tarnished plant bug) ranged 2-5 per sweep of forage legumes in Muskogee and Wagoner Counties, averaged 4 per sweep in McCurtain County. (Okla. Coop. Sur.).

GRASSHOPPERS - INDIANA - Nymphs of several species ranged 0-100+ per 100 sweeps in southwest and south-central district fields, mostly early instars. (Meyer). WISCONSIN - First-instar Melanoplus femurrubrum nymphs appeared in second-growth alfalfa; about 5 per 10 sweeps noted in one sandy area of western Dane County. Few scattered Melanoplus spp. nymphs noted earlier, but main hatch just beginning. Few second-instar M. differentialis nymphs noted in alfalfa in southern counties. (Wis. Ins. Sur.). MISSOURI - Melanoplus spp. light in alfalfa and red clover in central area. Ranged 0-7 per square yard. (Munson).

SOYBEANS

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - First-generation larvae active in 46 percent of fields on Eastern Shore. Damage light, all instars and limited numbers of pupae found. Heaviest larval counts ranged 1-4 per row yard in Dorchester and Wicomico Counties. Larvae caused moderate to heavy damage to untreated snap and lima beans in Dorchester, Wicomico, Caroline, Prince Georges, St. Marys, and Charles Counties. Heaviest populations found in Wicomico County, ranged 15-20 larvae per plant. Pupation underway in untreated plots and fields. About 6,000 acres treated once. (U. Md., Ent. Dept.).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MISSISSIPPI - Adults ranged 4-5 per 25 sweeps in 10 to 14-inch soybeans in Lowndes, Noxubee, and Oktibbeha Counties. (Robinson).

TARNISHED PLANT BUG (Lygus lineolaris) - OKLAHOMA - Moderate in soybean fields in McCurtain County. (Okla. Coop. Sur.).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Ranged 2-4 per sweep on young soybeans checked in McCurtain County. (Okla. Coop. Sur.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Pressure continued in most cotton fields throughout lower Rio Grande Valley. Fourth generation emerged during past week. Second-generation emergence began throughout northern part of south-central area. Punctured squares ranged 3-20 percent in Robertson, Brazos, and Burleson Counties; some fields spot treated. Most growers advised to treat after suspected H. zea (bollworm) oviposition occurs during first week of July. A. grandis very heavy in Hill and Ellis Counties where pest is annual problem. Punctured squares ranged 10-90 percent in fields near overwintering habitat. First-generation populations emerged in these counties. About 40-50 percent of weevils parasitized in Hill and Ellis Counties. Number of fallen squares continued to increase in other north-central counties. A. grandis expected to increase during next few days. First-generation hatch noted in Hunt and Delta Counties. Punctured squares ranged 5-90

percent in north-central area. Light to moderate populations noted in Fisher, Jones, Knox, and Wilbarger Counties. Square damage ranged 5-15 percent in more heavily infested fields. No weevil activity noted in Reagan, Upton, Midland, and Martin Counties. (Deer et al.).

OKLAHOMA - Boll weevil adults taken in pheromone traps totaled 75 in 32 traps in Muskogee County. Punctured squares averaged 28 percent in one Jackson County field, 8 percent in one Greer County field. Other fields in these counties and in Tillman, Kiowa, and Harmon Counties ranged 1-2 percent. Large numbers of adults found in Muskogee County; punctured squares ranged 10-25 percent. (Okla. Coop. Sur.). LOUISIANA - "Hot spots" found in few fields but weevil catches in pheromone traps very light as of July 1. (Tynes). MISSISSIPPI - Punctured squares increased in young cotton and decreased in older cotton as more squares are set in Noxubee and Lowndes Counties. Punctured squares ranged 0-30 percent on 4,000 acres in these counties. (Robinson). TENNESSEE - Damaged squares in 2 fields surveyed in Henderson County. (Patrick). Percent punctured squares ranged 0-40 in regularly infested part of western area. (Locke, Gordon).

BOLLWORM (Heliothis zea) - NEW MEXICO - Egg counts ranged 2-10 per 100 plants. Adults seen in fields. (N.M. Coop. Rpt.). OKLAHOMA - Averaged 6 larvae per 100 terminals and 12 percent damaged squares in one Jackson County field treated for fleahoppers. Infestations very light in most southwest area fields. Light in Muskogee and Wagoner Counties; moderate to heavy in McCurtain County. (Okla. Coop. Sur.).

TEXAS - Egg counts of H. zea and H. virescens (tobacco budworm) heavy throughout lower Rio Grande Valley last of June. H. zea moth activity expected to decrease significantly in south-central area. H. zea eggs noted in cotton terminals in many Bell County fields; up to 5 noted on single plants, many newly deposited. Parasite and predator activity heavy in fields and adequately controlling H. zea eggs. Very few H. zea eggs or larvae found during last week of June on cotton in north-central area. Oviposition expected to increase. Light larval infestations caused 1-2 percent square damage in Fisher, Knox, Jones, and Wilbarger Counties. Activity increased in Reeves, Pecos, Midland, Martin, Glasscock, Reagan, and Upton Counties. H. zea eggs ranged 2-8 per 100 terminals in Pecos and Reeves Counties. Bollworms ranged 2-10 per 100 plants in Glasscock, Reagan, and Midland Counties. Moth activity still moderate in scattered fields in Glasscock, Reagan, and Midland Counties. (Parker et al.). TENNESSEE - Heliothis spp. counts per 100 terminals ranged 0-3 eggs and 0-1 larva in Franklin and Lincoln Counties. Eggs ranged 0-3 per 100 terminals in western area. (Locke et al.).

MISCELLANEOUS FIELD CROPS

SUNFLOWER BEETLE (Zygogramma exclamationis) - NORTH DAKOTA - Adult activity in sunflower fields subsided in Cass, Steele, Foster, Stutsman, and Barnes Counties. Egg laying heavy in these counties. Some eggs hatched and early instar larvae evident. In Cass County, eggs ranged up to 113 (average 24) per plant; larvae ranged up to 12 (average about 2) per plant; adults averaged less than 1 per

lant. In Steele County, up to 70 eggs and up to 34 larvae per lant found. Eggs per sunflower plant by county: Foster, up to 00; Stutsman, up to 70; Barnes, up to 100. No beetles evident in riggs County sunflowers. Several fields in Cass County treated; dults had already laid eggs. (Brandvik, Kaatz).

ARIEGATED CUTWORM (Peridroma saucia) - OREGON - First to third-nstar larvae averaged 2.8 per sweep in peppermint field near efferson, Linn County. Early instar Autographa californica alfalfa looper) also present. (Berry).

OTATOES, TOMATOES, PEPPERS

OLORADO POTATO BEETLE (Leptinotarsa decemlineata) - MARYLAND - dult and larval feeding pressure on tomatoes very heavy on astern Shore. Untreated plots eaten to ground. Larvae ranged 0-60 per row foot in heaviest infested fields in untreated lots. (U. Md., Ent. Dept.). UTAH - Common in northern area potato nd tomato fields where not controlled; damage occurred. Knowlton).

REEN PEACH APHID (Myzus persicae) - MARYLAND - Evident in 60 per-ent of commercial and garden pepper plantings. Scheduled treat-ents underway in commercial fields in Caroline, Dorchester, and icomico Counties. Infestation ranged 2-15 per 50 plants. (U. Md., nt. Dept.).

OTATO FLEA BEETLE (Epitrix cucumeris) - MAINE - Infestations oderately heavy in York County, ranged 5-10 per potato plant; uch shothole damage in untreated plants. (MacGown).

EANS AND PEAS

EA APHID (Acyrthosiphon pisum) - WISCONSIN - Counts remained ight in peas, with 16 per 50 sweeps heaviest count found. arasitism continued heavy in southwest area, lighter in Waupaca ounty area. (Wis. Ins. Sur.).

EXICAN BEAN BEETLE (Epilachna varivestis) - NEW HAMPSHIRE - Noted eeding on beans. Could be problem in State this season. (Bowman).

OLE CROPS

TRIPED FLEA BEETLE (Phyllotreta striolata) - OHIO - Adults on late lanted Delaware County cabbage averaged 22 per plant. Economic njury evident. Heavier populations noted on plants ready for arvest in Delaware, Logan, and Union Counties. These plants too ature to be seriously damaged. (Fox).

DECIDUOUS FRUITS AND NUTS

APPLE APHID (Aphis pomi) - MAINE - Heavy in some apple orchards and beginning to increase in others. Orchards at higher elevations more heavily infested. Infestations range from severely curled leaves with abundant honeydew to single migrants with few young per terminal. Inter-tree and intra-orchard infestations will occur rapidly until terminal growth ends. (MacGown). IDAHO - Serious infestations noted in orchards in Canyon and Payette Counties; treatment programs inadequate. (Byrne, Homan).

EUROPEAN RED MITE (Panonychus ulmi) - MASSACHUSETTS - Appeared on Red Delicious apples in Hampden County; ranged 4-5 per leaf on some spur leaves in one commercial orchard. (Wilder). MICHIGAN - Generally light across fruit belt. Recent hot, humid weather expected to create population explosion. (Olsen). MISSOURI - Bronzing reported on apples in central area. Chemical treatment underway. (Enns).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - COLORADO - Ranged up to 30 and 40 per leaf on apple trees in Mesa County. (Bulla). MASSACHUSETTS - Generally light on apples in Hampden County, but found in many trees. (Wilder).

FALL WEBWORM (Hyphantria cunea) - OKLAHOMA - Moderate to heavy in Payne County and in east-central area counties on wild plums and ornamentals. (Okla. Coop. Sur.).

FILBERTWORM (Melissopus latiferreanus) - OREGON - First adult of season taken July 1 in blacklight trap at Pleasant Hill, Lane County. (Tinker). No moths yet taken in light trap in abandoned filbert orchard near Forest Grove, Washington County. (Collins).

BLACKMARGINED APHID (Monellia costalis) - OKLAHOMA - Light populations active on pecans in Kiowa County. First report of season. (Okla. Coop. Sur.). NEW MEXICO - Populations in Dona Ana, Otero, Eddy, and Chaves Counties required treatment in some pecan groves. Caused heavy amounts of honeydew on black walnuts in Farmington area, San Juan County. (N.M. Coop. Rpt.).

SMALL FRUITS

GRAPE FLEA BEETLE (Altica chalybea) - NEW HAMPSHIRE - Larvae common on grapes, destroyed leaves in southern area. Treatments recommended. (Bowman).

FOREST AND SHADE TREES

ELM LEAF BEETLE (Pyrrhalta luteola) - TEXAS - Moderate to heavy infestations continue to defoliate Chinese elm trees in Brewster, Reeves, Pecos, Ward, Winkler, Ector, Glasscock, Martin, and Upton Counties. Still problem throughout many Panhandle counties. (Neeb et al.). NEW MEXICO - Defoliation of elms continued with up to 50 percent foliage loss in San Juan County. (N.M. Coop. Rpt.)

RGER ELM LEAF BEETLE (Monocesta coryli) - WEST VIRGINIA - Adults d larvae caused heavy defoliation (90-100 percent) to several m trees in Renick area of Monroe County. This is a new county cord. (Hacker).

CUST LEAFMINER (Xenochalepus dorsalis) - WEST VIRGINIA - Larvae used 80 percent damage to black locust foliage in Jackson unty, 30-50 percent foliar damage in Mason County, and 80-90 rcent foliar damage in Kanawha County. (Hacker).

PLE LEAFCUTTER (Paraclemensia acerifoliella) - NEW HAMPSHIRE - rvae still in miner stage June 27 in Sullivan County. Expected start cutting holes in leaves this period. (Miller, Mason).

AEGERIID MOTH (Paranthrene palmii) - MISSISSIPPI - Heavily fested several Nutall oak trees grown for shade and as orna- ntals in Washington County. Infestation principally in lower unk, particularly around base. Up to 13 larvae per tree served. (Solomon).

PSYLLID (Psylla alni) - PENNSYLVANIA - Adults observed and llected on alder (Alnus sp.) in Seven Stars, Chester County, ly 27, 1973, by T.J. Henry and A.G. Wheeler. Determined by M. Russell. This is a new State record and apparently the first cord of this psyllid for the Eastern United States. (Kim). eviously reported in U.S. only from the Northwest. (PPQ).

AN AND ANIMALS

REWWORM (Cochliomyia hominivorax) - Total of 153 cases reported om continental U.S. during period June 16-22 as follows: xas 140, New Mexico 3, Arizona 7, California 3. Total of 186 ses confirmed from Mexico. Number of sterile flies released in S. this period totaled 140,086,200 as follows: Texas 120,979,200; w Mexico 630,000; Arizona 17,487,000; California 990,000. Total 73,034,800 sterile flies released in Mexico. (Anim. Health).

CE FLY (Musca autumnalis) - MISSISSIPPI - Adults ranged 10-40 verage 25) on 50 head of Monroe County Angus cattle. (Robinson). NNESSEE - Ranged 0-40 per head on livestock checked in Hamblen unty. None found on livestock checked in Dyer and Hardeman unties. (Turpen et al.). OHIO - Increased on pastured cattle atewide. Heaviest populations noted in Richland (30 per face), rren (35 per face), and Clinton (21 per face) Counties. (Fox). NDIANA - Adult average counts per cow ranged 2.5-9.8 in five lots f 80 mixed cattle in Grant County. (Dobson). WISCONSIN - noyance to cattle moderate in Chippewa, Calumet, and Polk unties. (Wis. Ins. Sur.). IOWA - Averaged less than one per head untreated Story County cattle. (Iowa Ins. Sur.).

UTH DAKOTA - Face fly and Haematobia irritans (horn fly) very avy on cattle in many areas. Pinkeye increased past several eks. Producers urged to observe and treat livestock where cessary. (Kantack et al.). CALIFORNIA - Face fly infestations und for first time in Merced, Madera, Mariposa, Tulare, and San uis Obispo Counties. These are new county records. Infestations und in foothill areas of Merced, Madera, Mariposa, and Tulare unties in 3,000 to 6,000-foot range. Not yet reported from floor f San Joaquin Valley, but infestations expected in this area. airy farms numerous in valley, particularly in Tulare County. In an Luis Obispo County, infestations general from coast inland. Cal. Coop. Rpt.).

STABLE FLY (Stomoxys calcitrans) - WISCONSIN - Caused moderate annoyance to cattle in Calumet and Polk Counties. (Wis. Ins. Sur.). OKLAHOMA - Averaged 2 per animal on cattle herds in Payne County. (Okla. Coop. Sur.).

HORN FLY (Haematobia irritans) - MISSISSIPPI - Adults still very heavy on untreated cattle at 1,000+ per head throughout State. Summer slump expected soon if hot, dry weather prevails. (Robinson). TENNESSEE - Counts per head on livestock by county ranged: Dyer 25-50, Hamblen 0-50, Hardeman 25-100. (Stafford et al.). INDIANA - Average adult counts per cow ranged 0.7-11 in five lots of 80 mixed cattle in Grant County. (Dobson). IOWA - Ranged 30-160 (average 83) per head on treated Story County cattle. (Iowa Ins. Sur.). NEBRASKA - Ranged 500-1,000 per animal in several range herds examined in Keith, Arthur, McPherson, and Lincoln Counties. (Campbell). OKLAHOMA - Averaged 150 per cow and 1,600 per bull in Payne County. (Okla. Coop. Sur.). TEXAS - Decreased on livestock throughout most areas due to hot dry weather. Still problem in Archer, Throckmorton, and other isolated counties throughout State. (Boring). UTAH - Observed on beef cattle in northern area; numerous in Washington County, troublesome in Juab County. (Jones, Knowlton).

MOSQUITOES - OHIO - During period June 26-28, 501 specimens taken in 41 light traps. Predominant species included Aedes vexans, A. trivittatus, and Culex pipiens. Populations light for time of year except for areas along Lake Erie. (Fox). WISCONSIN - Large scale mosquito problems anticipated earlier in season not yet developed; only few reports of moderate annoyance. Recent hot weather may change situation. Bite collections in northern Dane County indicated Aedes vexans principal biter at site surveyed. (Wis. Ins. Sur.). NEW MEXICO - Mosquitoes ranged light to moderate along rivers in San Juan County. Moderate populations appeared in Dona Ana County, where moderate biting reported. (N.M. Coop. Rpt.). UTAH - Annoying about several Davis County communities (Stockes) and in Cache County and Randolph and Woodruff areas of Rich County (Knowlton).

AMERICAN DOG TICK (Dermacentor variabilis) - NEW HAMPSHIRE - Became active in Strafford and Carroll Counties July 3. (Mason, Morse).

BROWN RECLUSE SPIDER (Loxosceles reclusa) - OKLAHOMA - Heavy numbers reported in Payne and Noble Counties. (Okla. Coop. Sur.).

MISCELLANEOUS WILD PLANTS

AN APHID (Micromyzus formosanus) - VIRGINIA - Collected from wild garlic at Blacksburg, Montgomery County, May 21, 1974, by R.L. Pienkowski and W.H. Robinson. Determined by L.M. Russell. This is a new county record. (Allen). This is third record of this aphid in State. Previously collected from shallots in Independent City of Norfolk in 1939 and from winter onions in Craig County in 1967. (PPQ).

NEFICIAL INSECTS

PUNCTUREVINE SEED WEEVIL (Microlarinus lareynii) - OKLAHOMA - ults and few larvae collected from puncturevine in Kiowa County. is is a new county record. (Okla. Coop. Sur.).

DY BEETLES - INDIANA - Collected 44 adults (very few immatures ken) in 1,000+ sweeps in 21 alfalfa fields in southwest and uth-central districts. Of total, Coleomegilla maculata 59 rcent, Hippodamia parenthesis 23 percent, H. convergens 7 rcent, Cycloneda sanguinea 9 percent, and Coccinella novemnotata percent. Adults not as common as usual in northern districts, en though aphids common in alfalfa in southern and northern stricts. (Shade, Meyer). NEW MEXICO - Unspecified species ranged 8 per 25 sweeps of cotton in Dona Ana County. (N.M. Coop. Rpt.).

DERAL AND STATE PLANT PROTECTION PROGRAMS

REAL LEAF BEETLE (Oulema melanopus) - DELAWARE - Adults collected oats at Black Bird, New Castle County, June 24, 1974, by R. nslong. Determined by R.E. White. This is a new State record. PQ). NEW YORK - Adults still active. Eggs, larvae, and adults ollected in most oatfields examined July 2 in Livingston County, d July 3 in Wyoming County. (Sliwa et al.). Larvae averaged out one per foot of row in 13 oatfields observed during period ne 1 to July 1 in Wyoming County. (Goewey). Occasional larva r stem observed June 28 in oatfield in Montgomery County. rueck).

RASSBUGS - UTAH - Labops utahensis and Irbisia spp. heavy in spots lower Franklin Basin to Logan Canyon area of Cache County. nowlton). L. hesperius conspicuous on range grasses in area of acksmith Fork Canyon and at Tony Grove Lake, Cache County. aws).

RASSHOPPERS - MONTANA - Infested 50,000 acres of rangeland near von, Powell County, 10,000 acres east of Crazy Mountains, Sweet rass County, and 10,000 acres north of Cut Bank in Glacier and ole Counties. Reported in gardens and around farmsteads. Isolated pots in rangeland of 10 or over per square yard noted in many unties. (Pratt). UTAH - Damaged feed in Flat Canyon and other ab County range areas. (Jones). Nymphs heavy in foothill areas etween Logan Canyon and Smithfield Canyon, Cache County. nowlton). MINNESOTA - Trace populations of second instars bserved in scattered fields in all districts. Most Melanoplus emurrubrum egg pods in segmented stage and occasional first nstar taken. No economic populations noted. (Minn. Pest Rpt.).

ORMON CRICKET (Anabrus simplex) - MONTANA - Treatments applied to bout 5,600 acres west of Pablo in the Valley View Hills, Lake ounty. (Pratt).

APANESE BEETLE (Popillia japonica) - MASSACHUSETTS - First adults f season observed July 2 in Hampshire County. (Jensen). ARYLAND - Newly emerging adults still numerous throughout State. omeowners and nurserymen treating. Adults averaged one per row ard in several Wicomico County soybean fields. Populations ex- ected to be above average again this year. (U. Md., Ent. Dept.).

VIRGINIA - Japanese beetle adult emergence heavy at Blacksburg, Montgomery County, July 2. This is about 10-14 days later than usual. Drought probable cause of delayed emergence. (Allen). TENNESSEE - Adults emerged in known infested eastern areas of State. (Hammett, Quillin). CALIFORNIA - Single adult female without eggs taken in trap June 26 just outside Balboa Park in San Diego, San Diego County. First and only adult taken in 1974. One foliar treatment completed in project area. Survey and treatment to continue. (Cal. Coop. Rpt.).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Infestation in cotton ranged 0-20 percent in Yuma County. At Yuma Valley, infestation 14 percent in one field, 8 percent in 2 fields, and 4 percent in several fields. Averaged 8.5 percent in fields in San Luis and Roll areas. Few fields treated twice, others about to be treated. Most cotton in Wellton and Roll area about 14 days from regular spray program. Heaviest infestations reported at lower Yuma Valley. (Ariz. Coop. Sur.).

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Few egg clusters found 25 miles east of Corona, Lincoln County; eggs light in spot north of Carrizozo, Lincoln County. Emergence underway. (N.M. Coop. Rpt.).

DETECTION

New State Records - CEREAL LEAF BEETLE (Oulema melanopus) - DELAWARE - New Castle County. (p. 525). A PSYLLID (Psylla alni) - PENNSYLVANIA - Chester County. (p. 523).

New County and Island Records - ALFALFA WEEVIL (Hypera postica) NEW MEXICO - Curry (p. 518). AN APHID (Micromyzus formosanus) VIRGINIA - Montgomery (p. 524). BANANA SKIPPER (Erionota thrax) HAWAII - Maui (p. 527). A BARK BEETLE (Xylosandrus compactus) HAWAII - Molokai (p. 527). CITRUS SWALLOWTAIL (Papilio xuthus) HAWAII - Hawaii (p. 527). FACE FLY (Musca autumnalis) CALIFORNIA - Merced, Madera, Mariposa, Tulare, San Luis Obispo (p. 523). LARGER ELM LEAF BEETLE (Monocesta coryli) WEST VIRGINIA - Monroe (p. 523). A PUNCTUREVINE SEED WEEVIL (Microlarinus lareynii) OKLAHOMA - Kiowa (p. 525).

eral Vegetables - Heavy damage by BEAN FLY (Ophiomyia* phaseoli) vae observed in 300-square-foot snap bean planting at Kealakekua, aii Island. About 50 percent mortality of young seedlings urred. No insecticides applied to seedlings. (Yoshioka). erate damage by BEAN BUTTERFLY (Lampides boeticus) larvae orded on snap beans harvested from 300-square-foot planting Kealakekua; 25-30 percent of beans damaged. Many adults erved in several bean plantings on Molokai, but no damage erved. (Yoshioka, Mau). SOUTHERN GREEN STINK BUG (Nezara idula) light in about 5 acres of bush beans on Molokai. Similar nt infestations also observed in small plantings of bush ns, soybeans, corn, and tomato. (LaPlante, Mau).

est and Shade Trees - Adults of A BARK BEETLE (Xylosandrus pactus) collected from twigs of kiawe (Prosopis pallida) at aau, Molokai. This is a new island record. X. campactus now orded on all major islands except Lanai. Small numbers of dead dying kiawe twigs observed on Molokai from Palaau through nakakai to Kamilo. Adults of another SCOLYTID BEETLE Sephanoderes birmanus) collected from dying twigs at Kamilo. Plante, Mau).

its and Nuts - Adult of CITRUS SWALLOWTAIL (Papilio xuthus) ght at Kailua, Kona, Hawaii Island, June 20, 1974. Damage to sh growth on few lemon trees since reported. Eggs and all val stages observed on foliage. Many adults being observed in a. This is a new island record. P. xuthus now found on all major sands except Molokai and Lanai. On Maui, this citrus pest now sidered well established at Wailuku where adult first caught weeks ago. (Yoshioka, Nakao). Ten BANANA SKIPPER (Erionota ax) larvae found on banana leaves at Kahakuloa, Maui, July 1, 4. Survey of surrounding area negative. Further surveys to be e to delimit infestation. This is a new island record. E. thrax occurs on Oahu, Kauai, and Maui. (Miyahira).

eficial Insects - Mature galls of a GALL FLY (Procecidochares) observed June 13 at Hualalai Ranch at Kaupulehu, Hawaii and. Initial release (see CEIR 24(18):306) made April 9, 1974. ice life cycle under insectary conditions (76 degrees F.) is ut 45 days, this observation indicates galls still contain st-generation larvae. (Yoshioka). Initial releases of an YRTID WASP (Ooencyrtus erionotae), an egg parasite of Erionota ax (banana skipper), and a BRACONID WASP (Apanteles erionotae), larval parasite of E. thrax, made at Wailua, Kauai; 2,000 O. onotae and 200 A. erionotae released. On Oahu, both parasites tinue to do well in leeward areas where E. thrax infestaons heaviest. (Sugawa et al.).

Spencer, K.A. 1973. Agromyzidae (Diptera) of Economic Importance, p. 61. The Hague. Dr. W. Junk, B.V.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight; I = incandescent; MV = mercury vapor; O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (salt-marsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellostripped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARIZONA																								
Mesa 6/24-30			BL	23		49			23									24		325		10	8	
INDIANA (Districts)																								
South West 6/21-27			2BL	15													1	53	168					
West Central 6/21-27			2BL	1													3	5	58					
IOWA																								
Beaconsfield 6/25-7/1			BL	29													10	1	107					
Gilbert 6/29-7/3			BL	77													16	6	97					
MICHIGAN (Counties)																								
Lenawee 6/25-7/1			BL	5													10	16	73					
Oceana 6/21-7/1			2BL	13													27	9	78					
MINNESOTA																								
Fergus Falls 6/27-7/1			BL				7										9		5					
Worthington 6/27-7/1			BL														1		22					
MISSISSIPPI																								
Stoneville 6/28-7/4	62-94		BL	5	1		14		14									8	32	2		54	2	
NEBRASKA																								
Clay 6/27-7/3			BL	19		169											4	24	160					
NEW HAMPSHIRE																								
Lee 7/1			BL	1	1												2		7					
NEW MEXICO																								
Las Cruces 6/30-7/5			4BL	6					7						3									
NORTH DAKOTA																								
Bismark 6/27, 30			BL																3	8				
Fargo 6/30, 7/2, 4			BL																24					
OHIO																		2						
Wooster 6/29-7/5			BL	59		7											22	42	368					
OREGON (Counties)																								
Linn 6/27-30			BL	3														14						
Marion 6/27-30			BL															34						

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
PENNSYLVANIA (Districts)																								
Central 6/26-7/1			BL	34													9		96					
North East 6/26-7/1			BL														1		1					
SOUTH DAKOTA																								
Brookings 6/27-7/2			BL	15			63										73	1	87				1	
TENNESSEE (Counties)																								
Hardeman 7/1-5			BL	2				1	1								5	3	20			15	1	
Madison 7/1-5			BL	5														11	25			15		
WEST VIRGINIA (Counties)																								
Monroe 7/1			BL	7	6													7	62				2	
Randolph 7/1			BL		21													1	13				1	
WISCONSIN																								
Hancock 6/26-7/2			BL														2							
Mazomanie 6/27-7/2			BL														26							

Aphids in the Pine Barrens of New Jersey
(Homoptera: Aphididae)

Mortimer D. Leonard 1/

For well over half a century aphids have been observed and collected throughout New Jersey. However, no attempt has ever be made to study the fauna of the Pine Barrens. The nearest approac to this has resulted from the work done by H.B. Scammell in the cranberry bogs around Pemberton, Whitesbog, and Toms River, and subsequently in these areas and around New Lisbon by P.E. Marucc of the Cranberry and Blueberry Research Station. A few others ha made collections in the Pine Barrens from time to time.

As a result of all these activities, about 242 species of aphids are now known to occur in New Jersey. Of these, about 40 have bee recorded from the Pine Barrens. (Several of these have not been found elsewhere in New Jersey.) Extensive collecting should reve the presence of at least twice as many as well as a number of additional New Jersey food plants.

All of the following records have been published in a series of five papers on New Jersey aphids by the writer. At the end of eac record is given, in parentheses, MDL and the year and page numbe which refer to these publications which are listed at the end of this paper.

The following are the names of the collectors and determiners as referred to by their initials in the text:

ANT - A.N. Tissot	LLP - L.L. Pechuman
ATO - A.T. Olive	LMR - L.M. Russell
EAR - E.A. Richmond	MacG - M.E. MacGillivray
FWQ - F.W. Quednau	MDL - M.D. Leonard
HWA - H.W. Allen	MR - Mary Rohwer
JOP - J.O. Pepper	PEM - P.E. Marucci

CEIR is Cooperative Economic Insect Report, PPQP, APHIS, USDA.

Amphorophora agathonica (Hottes). "NJL. A blackberry plant louse I have seen abundantly at Hammonton." This is given as A. ru (Kalt.). (MDL 1956:100).

Anoecia querci (Fitch). Pemberton, 1948, in light trap (PEM leg). (MDL 1956:101).

Aphis sp. New Lisbon, June 28, 1961, a dozen or 15 apterae, several nymphs on Lyonia (Pieris) mariana (PEM leg). (MDL 1964:81).

1/ Collaborator, ARS, USDA. Mail address: 2480 16th. Street, N.W. Washington, D.C. 20009.

Aphis cephalanthi Thomas. Browns Mills, July 1, 1966, on Cephalanthus occidentlis (LLP leg). (MDL 1971:65).

Aphis coreopsidis (Thomas). Whitesbog, July 13, 1961, on Nyssa sylvatica (PEM leg). (MDL 1967:78). Browns Mills, July 1, 1968. (LLP leg, who notes: "I noticed this aphid on Nyssa sylvatica. It was on both small and medium sized trees throughout the Browns Mills area; in several cases they were so abundant that the trees were dripping with honeydew.") (MDL 1971:65).

Aphis fabae Scopoli (bean aphid). New Lisbon, September 24, 1962, the mostly dried up remains of what had been a heavy infestation of a number of roadside Gerardia pedicularis (MDL & EAR leg). (MDL 1964:81). Probably Aphis gerardiae Thomas. Medford Lakes, October 7, 1962, a few on Lactuca sp. (GG Rohwer leg). (MDL 1964:81). "Light to moderate on beans in Cape May and Cumberland Counties." (CEIR 17(33):764, 1967). (MDL 1971:65). "Curling young bean leaves in several Cape May and Cumberland County fields." (CEIR 18(31):732, 1968). (MDL 1971:65).

Aphis gossypii Glover (cotton aphid, melon aphid). Pemberton, in a letter from P.E. Marucci of May 1957: "I have taken Aphis gossypii on blueberries but find them very rarely." (MDL 1956:103). Whitesbog (Pemberton), July 13, 1961, 3 alatae, 3 apterae on Leucothoe racemosa and 9 apterae on Rhododendron (Azalea) viscosa (PEM leg, JOP det with query). (MDL 1967:79). Sandtown, Burlington County, May 28, 1962, on Vaccinium corymbosa (MDL & HWA leg). (MDL 1964:82).

? Aphis incognita Hottes & Frison. Pemberton, 1948, an alata on sticky board in blackberry field (PEM leg, LMR det as "near incognita.") (MDL 1967:79). Recorded elsewhere only from Colorado, Illinois, and Utah from Symphoricarpos sp.

Aphis oestlundi Gillette. Indian Mills, May 26, 1963, on Oenothera sp. (HWA leg). (MDL 1967:80).

Aphis rubifolii (Thomas). Pemberton, July 1933, on wild blackberry leaves. (MDL 1967:104). Sandtown, Burlington County, May 28, 1962, a number in a tightly curled leaf of a small sand blackberry, Rubus cuneifolium (MDL & HWA leg). (MDL 1964:83).

Aphis spiraecola Patch (spirea aphid). Whitesbog (Pemberton), July 13, 1961, alatae, possibly "drifts" on Aronia atropurpurea and 5 apterae on Lyonia (Pieris) mariana (PEM leg, JOP det). (MDL 1967:80).

Brevicoryne brassicae (Linnaeus) (cabbage aphid). Pemberton, 1948, in light trap (PEM leg, LMR det).

Calaphis betulaecolens (Fitch). Red Lion, June 30, 1966, on Betula populifolia (LLP leg, FWQ det).

Calaphis leonardi Quednau. Medford Lakes, May 16, 1964, (MR leg, FWQ det), 19 specimens.

Callipterinella calliptera (Hartig). Medford Lakes, May 16, 1964, (MR leg, FWQ det). (MDL 1972:185).

Chaetosiphon minor (Forbes). Pemberton, 1940, in light trap (PEM leg, LMR det). (MDL 1956:102).

Chaitophorus viminicola Hille Ris Lambers. Indian Mills, May 20, 1963, on Salix sp. (HWA leg, MacG det). (MDL 1967:81). Recorded elsewhere only from Illinois, Iowa, and Pennsylvani

Cinara atlantica (Wilson). Browns Mills, July 8, 1968, alatae, apterae on Pinus rigida (LLP leg, JOP det). (MDL 1971:68).

? Cinara pilicornis (Hartig). Pemberton, May 24, 1939, on Picea s (Wm.M. Haude leg, ANT det with query). (MDL 1969:68).

Cinara watsoni Tissot. Red Lion, Burlington County, June 8, 1968, apterae on Pinus rigida and June 10, 1968, on P. rigida (LLP leg, JOP det). (MDL 1971:68).

Dactynotus sonchellus (Monell). Indian Mills, May 26, 1963, on Lactuca sp. (HWA leg, ATO det). (MDL 1967:82).

Eriosoma americanum (Riley) (woolly elm aphid). Burlington County July 10, 1947, accidental on blueberry (W.E. Tomlinson leg, 1 slide in USNM). (MDL 1971:69).

Eriosoma lanigerum (Hausmann) (woolly apple aphid). Browns Mills, April 13, 1916, on apple roots (Scammell leg). (MDL 1964:86)

Fimbriatus scammelli (Mason). Formerly placed in Myzus. P.E. Marucci in a letter dated May 1, 1957, states "During recent years Myzus scammelli has been difficult to find on cranberr bogs in New Jersey. The most severe infestations I have ever observed of this insect were when I placed cranberry turf in cages to observe development of other insects. This suggests that there is probably a very efficient control of this aphi in cranberry bogs. Certainly in the past 5 to 10 years it has never been so abundant as to have required control operations." (MDL 1956:114). P.E. Marucci in a letter dated in December 1962 says he now believes this aphid is much more common in cranberry bogs than he had previously imagined. (MDL 1964:92).

Fimbriatus sp. P.E. Marucci wrote me May 25, 1966, that this aphid was so numerous at Hammonton throughout an entire field of 20 acres of blueberries that the field had to be sprayed for control. He further stated that this was the first instance in 18 years that he had observed economic damage inflicted on blueberries by aphids. In making the determination of these aphids, of which there were over 100 alatae and apterae in the vial, L.M. Russell noted that the specimens differ from the types of scammelli (Mason). (MDL 1971:70). Chatsworth, May 14, 1966, two nymphs on cranberries (PEM leg, LMR det).

mamelistes spinosus (Shimer). Sandtown, Burlington County, May 28, 1962, common in the distorted leaves of Betula populifolia (MDL & HWA leg). (MDL 1964:87). Toms River, H.B. Scammell and Son, June 10, 1964, in corrugated leaves of white birch (G.O. Pope leg). (MDL 1967:83).

adaphis erysimi (Kaltenbach) (turnip aphid). Sandtown, Burlington County, May 28, 1962, in seed heads of Lepidium virginicum (MDL & HWA leg). (MDL 1964:87).

steroneura setariae (Thomas) (rusty plum aphid). Pemberton, 1948, in light trap (PEM leg). (MDL 1956:108). Second record for New Jersey.

crosiphum euphorbiae (Thomas) (potato aphid). Indian Mills, May 28, 1953, on Apocynum cannabinum (HWA leg). (MDL 1967:63).

crosiphum liriodendri (Linnaeus) (tuliptree aphid). Red Lion, July 1, 1966, on Magnolia virginiana (LLP leg). (MDL 1971:72).

sonaphis sp. Rake Pond, July 20, 1966, five nymphs on Gaylusaccia frondosa (PEM leg, LMR det as "apparently Masonaphis"). (MDL 1971:73).

sonaphis azaleae (Mason) (Amphorophora vaccinii Mason in part is a synonym). Pemberton and vicinity: P.E. Marucci wrote me in a letter July 1967, "I have taken Amphorophora vaccinii on blueberries but find them rarely." (MDL 1956:101). Pemberton: Specimens were collected by B. Putler in the lath house August 4, 1960, and also by Marucci October 21, 1960, (males and oviparae present) on cultivated blueberries. In December 1962, Marucci wrote me in regard to the present status of this aphid on blueberries, "It is common on blueberries during the soft succulent period of growth but declines very rapidly after the plant hardens." (MDL 1964:90).

sonaphis pepperi MacGillivray. New Lisbon, May 16, 1966, many in greenhouse on blueberry (PEM leg), (MDL 1971:73); 4 apterae, nymphs, June 15, 1970, on only Vaccinium corymbosum (PEM leg, MacG det).

sonaphis rhokalaza Tissot & Pepper. Red Lion, July 30, 1966, on Rhododendron viscosum (LLP leg, MacG det). (MDL 1971:73).

yzus persicae (Sulzer) (green peach aphid). "Winged and young forms noted in Cape May County on eggplant." (CEIR 16(32):782, August 12, 1966). (MDL 1971:74). Presumably in New Lisbon or vicinity. P.E. Marucci wrote me October 8, 1965, "I am sure Myzus persicae often invades strawberries. Last year a very heavy infestation of peppers overflowed into adjacent strawberries and the population was so high that the grower found it necessary to spray for them." (MDL 1967:87).

earctaphis crataegifoliae (Fitch). Pemberton, 1946, in light trap (PEM leg, LMR det).

rociphilus fraxinifolii (Riley). Pemberton, July 1933, in rolled edge of ash leaf (MDL leg). (MDL 1956:116). The only record from New Jersey.

Rhopalosiphum maidis (Fitch) (corn leaf aphid). "First of season noted on sweet corn in Cape May County field." (CEIR 18(31): 721, August 2, 1968). (MDL 1969:76).

Rhopalosiphum nymphaeae (Linnaeus) (waterlily aphid). Pemberton, 1948, in light trap (PEM leg). (MDL 1956:117).

Saltusaphis elongatus Baker. Whitesbog, October 21, 1914, oviparou females only on Carex sp. Types in USNM. Only record for New Jersey. (MDL 1964:94).

Sitomyzus rhois (Monell). Burlington County, September 30 to October 14, 1947, in blueberry fields (PEM leg). (MDL 1964:94).

Thripsaphis balli (Gillette). Whitesbog, November 15, 1915, oviparous females taken on three-square, Scirpus americanus. Only record for New Jersey. (MDL 1964:95).

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---------- 1971. More records of New Jersey aphids (Homoptera: Aphididae). J. N. Y. Ent. Soc. 79(2):62-81.

---------- 1972. Aphids of New Jersey, a few more records (Homoptera: Aphididae). J. N. Y. Ent. Soc. 80:182-194, Dec.

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
24(28):530-534, 1974

Estimates of Damage by the European Corn Borer
To Grain Corn in the United States in 1973

Compiled by the Pest Survey and Technical Support Staff
PPQ, APHIS

The loss to grain corn attributed to the European corn borer (Ostrinia nubilalis Hübner)) in 1973 is estimated to be about 139,395,000 bushels in 15 corn-producing States. In these States the loss was 2.77 percent of the production. This loss is about 2.47 percent of the total national crop estimated at 5,643,256,000 bushels 1/. The value of the loss, based on the season average prices received by farmers for corn 2/, is $329,272,000. These loss estimates are only for the States shown in Table 1, and are based on the counties or districts surveyed during the fall of 1973 within the States 3/.

Table 1 is a composite of State and Federal estimates. These estimates were prepared by using production data 1/, and prices received 2/, released by the Statistical Reporting Service. The basis for the loss estimates was determined by the survey of European corn borer populations during the fall of 1973 3/. The index of 3 percent loss per borer per plant was used to compute the loss in bushels.

Estimated losses to grain corn for the past 22 years in States where the fall abundance survey was conducted are as follows:

1973	139,395,000	Bushels	$329,272,000
1972	65,821,000	"	83,367,000
1971	305,545,000	"	319,777,000
1970	195,885,000	"	250,178,000
1969	163,501,000	"	182,509,000
1968	154,554,000	"	161,287,000
1967	59,661,000	"	63,837,000
1966	121,236,000	"	155,876,000
1965	54,318,100	"	59,374,160
1964	87,116,000	"	97,478,000
1963	120,647,000	"	127,838,000
1962	88,245,000	"	93,695,000
1961	65,044,000	"	68,998,000
1960	102,991,000	"	96,085,000
1959	67,763,000	"	71,979,000
1958	100,699,000	"	98,434,000
1957	180,897,000	"	158,841,000
1956	97,971,000	"	119,535,000
1955	155,355,000	"	182,579,000
1954	191,614,000	"	261,415,000
1953	90,000,000	"	125,466,000
1952	53,270,000	"	77,205,000

1/ Crop Production, 1973 Annual Summary, Crop Reporting Board, Statistical Reporting Service, USDA, January 16, 1974.

2/ Crop Values, Season Average Prices Received by Farmers and Value of Production 1971, 1972, and 1973, Crop Reporting Board, Statistical Reporting Service, USDA, January 16, 1974.

3/ Cooperative Economic Insect Report 24(5):34-40, 1974.

Table 1. Estimates of Damage by the European Corn Borer to Corn Grown for Grain in the United States in 1973

State	Districts Included 1/	Total State Production	Estimated Data: Value per Bushel	Estimated Data: Value of Production	Estimated Data: Loss of Crop	
	Number	1,000 Bu.	Dollars	$1,000	1,000 Bu.	$1,000
Delaware	1	15,810	2.45	38,735	2,191	5,368
Illinois	9	996,010	2.45	2,440,225	36,353	89,064
Indiana	12	534,480	2.35	1,256,028	18,636	43,794
Iowa	12	1,204,200	2.35	2,829,870	28,680	67,395
Kansas	9	154,000	2.40	369,600	1,690	4,055
Kentucky	1	85,850	2.45	210,333	497	1,217
Maryland	3	42,500	2.45	104,125	2,546	6,237
Michigan	5	133,510	2.35	313,749	4,708	11,064
Minnesota	7	513,360	2.20	1,129,392	5,910	13,001
Missouri	8	228,800	2.35	546,832	14,016	32,939
Nebraska	5	544,050	2.25	1,224,113	7,627	17,161
North Dakota	1	10,080	2.15	21,672	138	297
Ohio	5	240,160	2.45	588,392	7,475	18,313
South Dakota	6	142,020	2.15	305,343	4,245	8,127
Wisconsin	9	173,470	2.40	416,328	4,683	11,240
Totals		5,018,300		11,794,737	139,395	329,272

1/ Cooperative Economic Insect Report 24(5):34-40, 1974

Prepared by Pest Survey and Technical Support Staff

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
24(28):535-536, 1974

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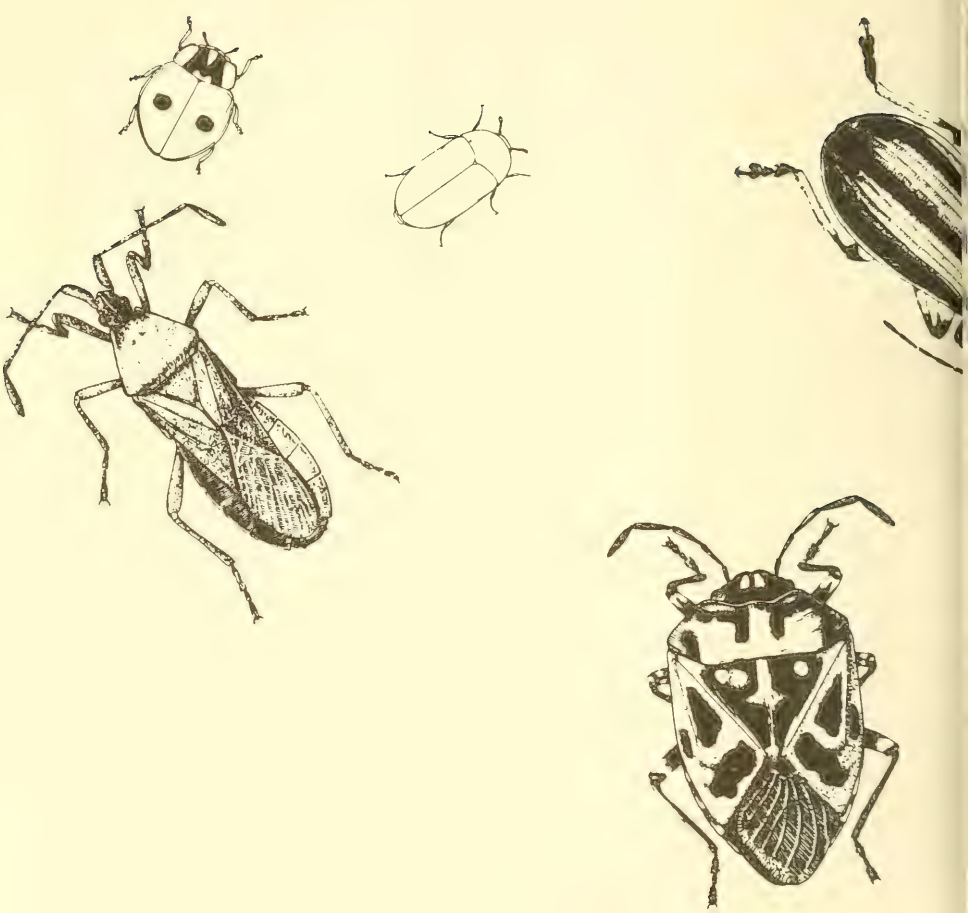

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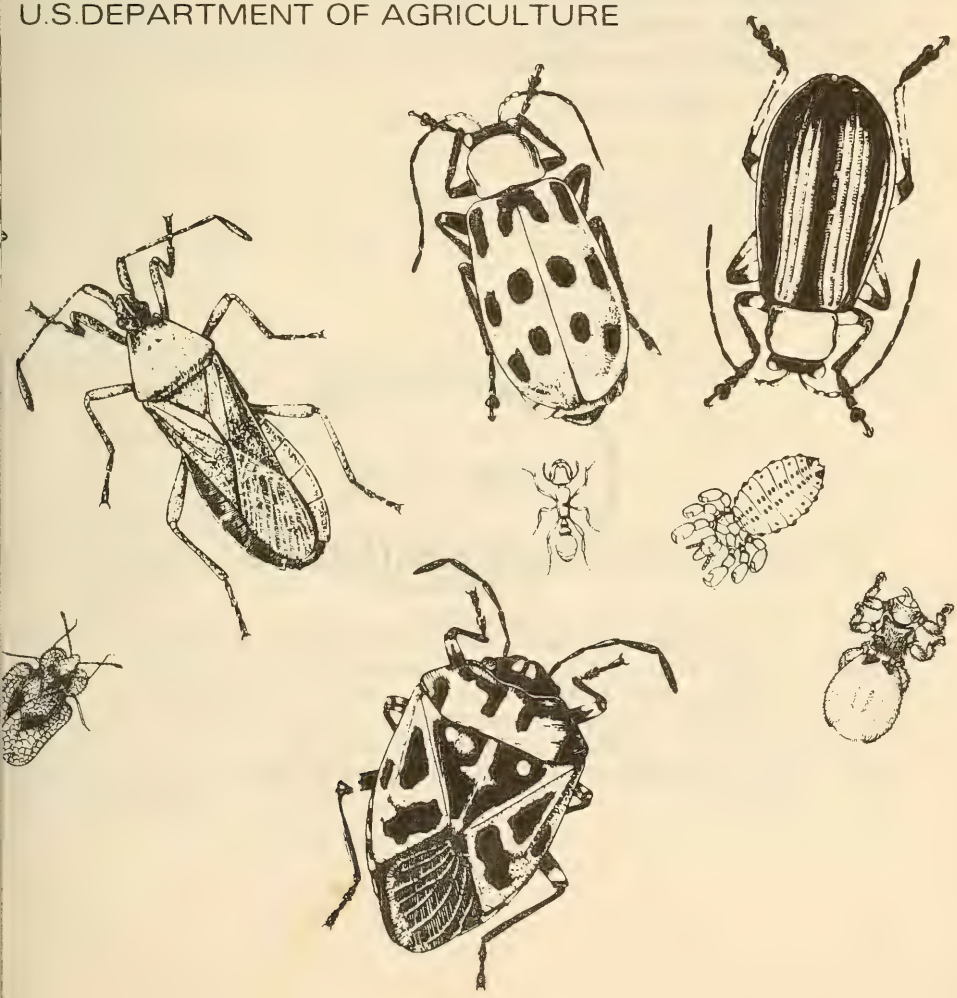

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
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PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

BEET LEAFHOPPER heavy in sugar beets in southeast Colorado. (p. 548). CORN LEAF APHID heavy on some barley in North Dakota; heavy in some sorghum in Oklahoma and scattered fields in northeast Kansas. Appeared on corn in Wisconsin, Illinois, and Ohio. GREENBUG damaged small grains in southeast Colorado, heavy on sorghum in northeast Missouri and required some treatment in South Dakota. POTATO LEAFHOPPER increased on alfalfa in Maryland, economic in second-cutting alfalfa in Ohio. (pp. 539-541).

EUROPEAN CORN BORER second-generation moths emerged in southern Illinois, larval development rapid in Wisconsin. (pp. 541-542). CORN ROOTWORM adults heavy in corn in northeast Kansas, larval development later than most years in South Dakota; adults detected in Illinois and Iowa, and heavy on corn in northwest Missouri. (pp. 541-543).

PEA APHID holding back second-crop alfalfa hay in Nevada, increased on second crop in eastern South Dakota. (p. 544).

BOLL WEEVIL increased on cotton in south-central and north-central Texas; populations in western Tennessee much heavier than at same time in 1973. (p. 545).

Detection

New State records include a TABANID FLY in Delaware (p. 552) and a WOOLLY ELM APHID in Nevada (p. 551).

For new county records see page 555.

Special Reports

More Records of Massachusetts Aphids (Homoptera: Aphididae). (pp. 558-560).

Aphids Collected in Arizona (Homoptera: Aphididae). (pp. 561-562).

Reports in this issue are for week ending July 12 unless otherwise indicated.

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NATIONAL WEATHER SERVICE'S 30-DAY OUTLOOK

MID-JULY TO MID-AUGUST 1974

The National Weather Service's 30 day outlook for mid-July to mid-August is for temperatures to average above seasonal normals over the central and southern Plateau Region and from the northern and central Great Plains through the Midwest. Below normal averages are indicated for the Northwest and the Southeast. In unspecified areas near normal temperatures are in prospect. Rainfall is expected to exceed the median amount over the north Pacific coast, eastern portions of the central and southern Plateau Region, the gulf and south Atlatnic coasts, and the Great Lakes region. Elsewhere less than the median amount is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price $5.00 a year.

'ECIAL INSECTS OF REGIONAL SIGNIFICANCE

RMYWORM (Pseudaletia unipuncta) - WISCONSIN - Moderate in everal crops, including corn, oats, wheat, and grassy peas and lfalfa. Populations appear scattered. Counts of 3-6 per square ot noted in lodged wheat in Columbia County; about one per uare foot noted in grassy pea fields in Fond du Lac, Calumet, d Sheboygan Counties. Damage to corn infrequent, usually trace only few marginal rows. Up to 80 percent of plants reported maged in one Racine County cornfield. (Wis. Ins. Sur.). ICHIGAN - Larvae very heavy in field of no-till corn planted in e in Isabella County. Treatment required. (Sauer).

STER LEAFHOPPER (Macrosteles fascifrons) - WISCONSIN - Averaged per 50 sweeps in unheaded oats in Sheboygan and Manitowoc unties. Generally averaged 5 per 25 sweeps in potatoes. Seldom re than 1-2 per 25 sweeps in snap beans. (Wis. Ins. Sur.).

RN EARWORM (Heliothis zea) - NEW JERSEY - Moths in blacklight raps decreased past few nights. (Ins.-Dis. Newsltr.). MARYLAND - l stages much below normal on sweet corn in most areas. (U. Md., t. Dept.). ARKANSAS - Light in sorghum in dough stage in mpstead, Lafayette, and Miller Counties. Averaged less than one r row foot. Counts expected to decline in sorghum in this age. (Boyer). KANSAS - Trace in ears in some cornfields in south- st district. (Bell). IDAHO - No infestations reported on perimental corn picked July 3 at research center at Parma, nyon County. On this date in 1973, 40 percent infestation noted experimental plots. Much lighter population for 1974 predicted. cott).

RN LEAF APHID (Rhopalosiphum maidis) - TEXAS - Persisted in st sorghum fields in San Angelo area. Continued light to derate in whorls of grain sorghum in Knox and Wilbarger unties. Light to moderate in fields in Reeves County. Popula- ons in Lubbock area peaked and on increase but not causing conomic damage. Aphids "exploded" in Hale County. (McWhorter et .). OKLAHOMA - Scattered heavy infestations noted in irrigated rghum in Texas and Grady Counties. Populations declined in many ea fields as many plants heading. Moderate in Payne County and ght to moderate in Wagoner, Okmulgee, and McCurtain Counties. kla. Coop. Sur.). KANSAS - Heavy in scattered sorghum fields in rtheast district and in Haskell County, in southwest district. festations generally light in sorghum surveyed in other south- st district counties and in several north-central district unties surveyed as well as in Butler, Harvey, and Sedgwick unties. (Bell).

RTH DAKOTA - Corn leaf aphid heavy on barley in Cass County; up 70 per leaf on barley in Walsh County. (McBride, Kaatz). INNESOTA - Winged forms appeared on corn in southern districts. inn. Pest Rpt.). WISCONSIN - Winged individuals noted on corn s far north as Waushara and Buffalo Counties. Nymphs appeared in uthern counties; few plants in western Dane County with colonies 15+ nymphs per plant. (Wis. Ins. Sur.). ILLINOIS - Found in casional cornfields in late whorl to early tassel stage in uthern, western, and central areas. (Sur. Bull.). OHIO - peared on sweet and field corn in late-whorl stage. Late-planted ield corn most susceptible to damage in hot, dry areas of tate; especially susceptible between late-whorl and early milk tage. (Fox).

GREENBUG (Schizaphis graminum) - TEXAS - Very light in Tom Green and surroudning counties. Light in sorghum fields in Knox County. In isolated Reeves County fields colonies ranged 1-4 on 10 percent of sorghum plants with 4-20 aphids per colony. Light numbers reported in Lubbock County area. Increased counts noted in Hale County. Heaviest counts, 2,000 per plant in isolated fields. (McWhorter et al.). ARKANSAS - Survey in sorghum negative in Hempstead, Lafayette, and Miller Counties. (Boyer). OKLAHOMA - Averaged 300 per plant on sorghum in one Garvin County field, ranged 15-40 per plant in Bryan and Murray Counties, and 0-10 per plant in Carter, Marshall, and Love Counties. Ranged up to 250 per leaf in Caddo County, increased in Grady County. Populations increased in irrigated Texas County fields, ranged up to 66 per plant. (Okla. Coop. Sur.). COLORADO - Damaging populations found in one area of Bent County with populations of 50-150 per plant. (Schweissing).

KANSAS - No economic greenbug infestations reported in sorghum except in scattered Nemaha County fields where greenbug at or approaching economic levels. However, activity of Lysiphlebus testaceipes (a braconid wasp) fairly heavy in some of these fields and may bring greenbug under control within next 7+ days. No L. testaceipes activity reported in other areas. Most fields surveyed in southwest district counties (average height of sorghum 18 inches) had less than 10-15 S. graminum per plant with heaviest counts 100+ per plant in small percentage of fields in Meade and Stevens Counties. About 80 percent of fields surveyed in north-central district infested; most infested fields averaged trace to 10 S. graminum per plant. Heaviest counts found in Smith County, 0-125 per plant. Other counts: Phillips 0-50; Rooks 0-25. Sorghum averaged 15 inches tall in district. Light on sorghum surveyed in Harvey, Sedgwick, and Butler Counties; heaviest count 50 per plant. (Bell).

MISSOURI - Greenbug heavy on sorghum in northwest area. Noted in all sorghum fields checked; heavy populations and damage observed only in fields 28+ inches tall. (Munson). NEBRASKA - On milo, ranged from 0-1,200 (average 7.4) per plant with 80 percent of plants infested in 369 fields in Clay County. (Gary, Keith). SOUTH DAKOTA - Still reported on spring grain, some growers concerned but wheat in dough stage and beyond damage. Infestations on milo vary from field to field. Some sprays applied to severely infested fields, some additional fields will require treatment. (Walgenbach). NORTH DAKOTA - Ranged up to 15 aphids on 50 percent of flag leaves on wheat in Grand Forks County. (Kaatz).

POTATO LEAFHOPPER (Empoasca fabae) - MARYLAND - Increased on alfalfa with some yellowing in all sections of State. (U. Md., Ent. Dept.). WEST VIRGINIA - Adults and nymphs caused 25 percent "tip burn" to alfalfa in Pleasants County. In Jackson County, 248 adults and nymphs per 100 sweeps in alfalfa, 10 percent "tip burn." (Hacker). KENTUCKY - Severely "burned" potatoes in commercial planting in Fayette County; home gardens in central and southern areas showed damage. (Barnett).

OHIO - Potato leafhopper economic on most second-cutting alfalfa over most of State; averaged 1+ per sweep. Population increased rapidly due mainly to recent hot, dry weather. Although yellowing and stunting of alfalfa not yet common, prolonged suitable conditions will cause sudden damage and widespread economic losses. Average counts per 50 sweeps by county; Seneca 33,

Huron 32, Jackson 30, Lorain 24, Stark 22, Morrow 20. (Fox). WISCONSIN - Potato leafhopper seldom averaged 5+ per 100 sweeps on snap beans in central area; counts of 6-11 per 25 sweeps common in La Crosse and Trempealeau Counties. Ranged 5-14 per 25 sweeps on treated potatoes in central district. Adults increased greatly, ranged 7-12 per sweep, in untreated potato plot in Arena area, Iowa County. Counts about normal for time of year on alfalfa; ranged 1-2 per sweep. Nymphs evident in most fields. Generally averaged 10 per 25 sweeps in soybeans over southern two-thirds of State. (Wis. Ins. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Averaged 1,000 per 10 sweeps in one Garvin County alfalfa field, but only 20 per 10 sweeps in second field. Averaged 85 per 10 sweeps in Murray County. (Okla. Coop. Sur.). WISCONSIN - Up to 40 per sweep found in alfalfa on sandy soil near Cochrane, Buffalo County. Averaged 3 per sweep in La Crosse and Trempealeau County area; few found in sandy area of Manitowoc County. (Wis. Ins. Sur.).

TOBACCO BUDWORM (Heliothis virescens) - MARYLAND - Populations on tobacco generally below heavy counts of 1973. Heavy parasitism, up to 25 percent, observed in several fields in Charles and Prince Georges Counties. (U. Md., Ent. Dept.).

TOBACCO HORNWORM (Manduca sexta) - FLORIDA - First to third-instar larvae infested 97 percent of untreated plots of flue-cured type tobacco at Live Oak, Suwannee County, July 3. Control excellent in treated commercial plantings. (Fla. Coop. Sur.). KENTUCKY - This pest and Heliothis spp. (tobacco budworms) caused light damage to tobacco in Warren County. Larvae damaged 16 percent of plants and destroyed 5-10 percent of foliage of tobacco in stages 4 and 5 at several locations in Allen County. In Larue County, 4 percent of plants damaged. Nelson County fields showed 10-12 percent of plants with damage. (Barnett). TENNESSEE - Live Manduca spp. larvae found in 4 of 6 tobacco fields surveyed. In one field, based on sample of one percent of plants examined, larvae averaged 43 per acre and damage indicated need for controls. Larvae at control level in another field just treated at time of survey. (Jacobs).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - MAINE - Larvae caused moderate damage to corn, few adults in light traps at Portland. (Gall). NEW JERSEY - Moth collections decreased in light traps; currently between broods. (Ins.-Dis. Newsltr.). DELAWARE - Adults averaged less than one per night in blacklight trap collections in western Sussex County. (Burbutis). MARYLAND - Egg mass counts on sweet corn generally lighter than expected. (U. Md., Ent. Dept.).

INDIANA - European corn borer larvae in third and fourth instars in central district corn. (Meyer). ILLINOIS - Second-generation moths emerged in southern area, will continue next 14 days. Egg laying should begin soon and continue next several weeks. These moths will lay eggs in late-planted corn. Treatments for second-brood larvae may be needed in late July in southern area, by early August in central area. (Sur. Bull.). WISCONSIN - Larval development progressed rapidly. Second-instar larvae noted in corn as

far north as Waushara County in central area and Trempealeau County in western area. Few third instars of European corn borer noted in advanced area of La Crosse County; large fourth instar noted at Mazomanie, Dane County. Egg masses still evident in some Rock County fields; adult activity about ceased in State except near Lake Michigan where adult activity still heavy. Larval damage light in most corn. (Wis. Ins. Sur.).

MINNESOTA - European corn borer eggs and larvae difficult to find in corn. In southeast district, 11 percent of fields infested and 288 larvae per 100 plants heaviest infestations found. Percent development by instar: First 38, second 58, third 4. In southwest district, one of 38 fields checked infested with 2 second-instar larvae per 100 plants and no egg masses. Egg masses trace on corn in west-central and central districts. (Minn. Pest Rpt.). NORTH DAKOTA - Adults appeared in light traps at Fargo and Bismarck. Egg masses evident on corn in Ransom County. (Frye). KANSAS - First-generation moths flying in Brown, Riley, and Republic Counties. Corn surveyed in Riley and Cloud Counties showed most larvae pupated. (Bell).

FALL ARMYWORM (Spodoptera frugiperda) - MISSISSIPPI - Late-instar larvae infested 33 percent of buds in 25 acres of June-planted corn for silage in Pearl River County. One crop harvested from this field. (Robinson). ARKANSAS - Larvae light and feeding as budworms in whorls of young sorghum in Lafayette County. Less than 10 percent of plants infested. (Boyer).

CORN ROOTWORMS (Diabrotica spp.) - KANSAS - Adults heavy in few cornfields in northeast district. In one Stevens County field in corn for several years and received no planting-time treatment, adults ranged 8-12 per plant and root systems severely damaged by larval feeding. In general, adults light in southwest district counties surveyed. (Bell). SOUTH DAKOTA - Larvae active in corn but development behind most years. Egg hatch probably delayed due to prevailing lower soil temperatures during spring. Root regeneration on injured plants expected to be difficult due to current very dry soil conditions. (Walgenbach). MINNESOTA - Very light numbers detected. Ranged 0-8 per corn plant in southwest district. Most fields in trace category. Most larvae in first to third instar. (Minn. Pest Rpt.). ILLINOIS - Adults of D. virgifera (western corn rootworm) and D. longicornis (northern corn rootworm) detected in corn. (Sur. Bull.).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - MISSOURI - Adults heavy in northwest area corn. Ranged 8-40 per plant in untreated fields. Leaf feeding observed in all untreated fields. Larval damage observed throughout area. Lack of moisture in area preventing root regeneration. (Munson). IOWA - First adult of season noted July 9 in Boone County. Damaged fields reported in Cherokee, Fremont, Linn, Marshall, Mills, and Monona Counties. Adults, 5 per silk, fed heavily on cornsilk in 50-acre Mills County field. (Iowa Ins. Sur.). INDIANA - Pupation 15 percent in one area of Porter County; in another area of county, pupation 10 percent with 7 percent of adults emerged but still in soil. Two adults observed July 10. (Turpin).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - NEW JERSEY - Easily found in soil around corn roots near Bloomsburg, Hunterdon County. Up to 11 per plant collected July 9. No adults yet found. (Ins.-Dis. Newlstr.). INDIANA - Pupation 15 percent in Clinton County. (Turpin). OKLAHOMA - Adults light in a Pontotoc County cornfield. (Okla. Coop. Sur.).

CHINCH BUG (Blissus leucopterus leucopterus) - KANSAS - Infestations heavy in field borders of several Nemaha County sorghum fields week ending July 5 due to migration from nearby cut wheat fields. Nymphs and adults ranged 10-50 per plant as far as 200 feet into fields; some plants killed and some treatment applied. Heavy field border infestations also reported in some Marshall County fields and in two McPherson County fields; ranged 10-12 per plant. Currently still problem in borders of some sorghum fields in Nemaha and Marshall Counties. New reports of damage received from Brown and Shawnee Counties. Treatments gave unsatisfactory control in most cases since pest found feeding mostly on stems below soil level and thus protected. (Bell). NEBRASKA - Spotted damaging infestations reported in corn and sorghum in Pawnee and Richardson Counties. (Roselle).

BANKS GRASS MITE (Oligonychus pratensis) - TEXAS - Light on grain and forage sorghum in isolated areas of Reeves and Pecos Counties. Present in many corn and sorghum fields in Bailey, Lamb, and Hale Counties. Populations not at control levels. Spider mite populations were reported as not increasing but present in most fields in Hale County. Some plants with up to 100 mites per plant. (Neeb et al.). OKLAHOMA - Up to 60 percent of sorghum plants infested with small colonies in some irrigated Texas County fields. Some cornfields treated. (Okla. Coop. Sur.). COLORADO - Colonies found up to sixth to eighth leaf on corn plants in lower Arkansas Valley. (Schweissing).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - NORTH CAROLINA - Observations in Hertford, Chowan, Northampton, Halifax, Edgecombe, Martin, Washington, and Bertie Counties revealed widespread infestation of all stages in field corn. Economic in 4 of 100 fields checked in area. One field near Murfreesboro showed a yield reduction on about 5 of 25 acres. Mite clusters on ears and blades observed in field. In 25 other fields observed in area, infestations varied from light detectable levels to several hundred per blade. All cases with easily detectable infestations on light soils, drought stressed, and followed peanuts in 1973. Peanuts in area must be watched very closely as migration from corn to adjacent peanuts is definite threat. (Rogister, Hunt).

SMALL GRAINS

ENGLISH GRAIN APHID (Macrosiphum avenae) - IDAHO - Nymphs and adults averaged 5 per head in 160-acre Paha wheatfield at Moscow, Latah County. Populations exceeded treatment threshold level (25-30 per head) at Nezperce, Lewis County. Kernels in milk stage of development. (Dailey, Gephart).

BARLEY THRIPS (Limothrips denticornis) - NORTH DAKOTA - Adults and immatures heavy in barley leaf sheaths in Cass County. Some discoloration evident. (McBride).

A SCUTELLERID BUG (Eurygaster minidoka) - CALIFORNIA - Heavy adult population infested stems of wheat at Palo Cedro, Shasta County. (Cal. Coop. Rpt.).

TURF, PASTURES, RANGELAND

BANKS GRASS MITE (Oligonychus pratensis) - NEW MEXICO - This spider mite and Dolichotetranychus summersi taken from Bermuda grass near Malaga, Eddy County, where grass almost white from severe feeding. (N.M. Coop. Rpt.).

BLUEGRASS BILLBUG (Sphenophorus parvulus) - NEBRASKA - Damage to bluegrass lawns appeared statewide. In Lincoln and Omaha areas (Douglas and Lancaster Counties) larvae ranged 0-40, averages ranged 10-18, per square foot in infested areas with about 50 percent of larvae pupated. (Kindler).

GRASSHOPPERS - KENTUCKY - Adults and nymphs averaged 260 per 100 sweeps in Larue County, 430 in Warren County in roadside grasses, mostly fescue. (Barnett).

FORAGE LEGUMES

PEA APHID (Acyrthosiphon pisum) - NEVADA - Ranged 200-400 per sweep on alfalfa seed and hay in Orovada area, Humboldt County. Infestations holding back second crop hay. (Stitt). Ranged 200-400 per sweep in Lovelock, Pershing County, alfalfa seed fields. One very heavily infested field averaged 7,500 per sweep with large amounts of honeydew present. (Arnett). MINNESOTA - Few counts of 3,000 per 100 sweeps found in alfalfa being affected by dry conditions. These conditions also accelerated alfalfa growth and much being cut for second time. (Minn. Pest Rpt.). SOUTH DAKOTA - Buildup observed on second-crop alfalfa in eastern part of State, in spite of prevailing high temperatures. Very heavy infestations and extensive damage observed in Brookings County and reported from other areas. Growers should examine fields to determine if infestation economic. (Walgenbach).

OHIO - Pea aphid ranged from one per 5 sweeps to one per sweep generally in northern area alfalfa fields. Heaviest infestation found, 2 per sweep in Morrow County stand. (Fox). KENTUCKY - Populations still heavy week ending July 5. Ranged 100-300 per 100 sweeps of alfalfa in Hardin, Mercer, and Garrard Counties. (Barnett).

TARNISHED PLANT BUG (Lygus lineolaris) - OHIO - Adults common in second-cutting alfalfa. Average counts per 50 sweeps by county: Lorain 24, Seneca 24, Huron 20, Stark 13, Morrow 2. (Fox). OKLAHOMA - Ranged 2-9 per 10 sweeps of alfalfa in Garvin and Murray Counties. (Okla. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - TEXAS - Ranged 60-500 per 100 sweeps in alfalfa seed fields in Ward and Reeves Counties. Controls applied to fields where counts averaged 400 per 100 sweeps. (Neeb).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - NEW MEXICO - Ranged 4-6 per sweep of alfalfa in Eddy County, up to 10 in some areas of Dona Ana County. (N.M. Coop. Rpt.).

ALFALFA WEEVIL (Hypera postica) - MICHIGAN - Damage heavy to first-cutting alfalfa in Oscoda County; few growers sprayed stubble to save second cutting. This is first time controls have been necessary for this pest in Oscoda County. (Sauer). WISCONSIN - Noted in alfalfa as far north as Marathon County. Counts light in second-growth alfalfa, 2-3 per 10 sweeps. All larval stages present. Adults infrequently collected in second-growth alfalfa. (Wis. Ins. Sur.). ARKANSAS - Larvae still light in alfalfa in northwest area; none found in alfalfa in southwest area. (Boyer).

ALFALFA CATERPILLAR (Colias eurytheme) - TEXAS - Larvae caused heavy damage in isolated fields in Ward County where alfalfa in early stage of growth. Larvae in these fields ranged 400-600 per 100 sweeps. Controls applied. In fields where alfalfa plants in later growth stage larvae ranged 20-60 per 100 sweeps. (Neeb). NEW MEXICO - Larvae per 25 sweeps of alfalfa ranged 3-5 in Eddy County, up to 7 in Dona Ana County. (N.M. Coop. Rpt.).

ALFALFA BLOTCH LEAFMINER (Agromyza frontella) - MASSACHUSETTS - Infestation ranged 3-5 percent in several mature alfalfa fields in Hampshire and Franklin Counties. (Jensen).

GRASSHOPPERS - MINNESOTA - Most populations still at trace levels. Approached economic levels only in few field margins in western Marshall County in Red River Valley. Adult Melanoplus bivittatus averaged 6 per square yard in edges of few alfalfa fields. M. bivittatus second and third-instar nymphs ranged 4-6 per square yard in western and central Norman County hay fields. No feeding damage evident. (Minn. Pest Rpt.).

SOYBEANS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - FLORIDA - Caused economic damage to about one square mile of soybeans on farm at Quincy, Gadsden County, by July 3. (Fla. Coop. Sur.). OKLAHOMA - Damaged soybean field in Pauls Valley area, Garvin County. Killed 5 plants per 20 row feet in some spots. (Okla. Coop. Sur.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Generally below economic levels but expected to increase during late July in southern counties. (U. Md., Ent. Dept.).

BEAN LEAF BEETLE (Cerotoma trifurcata) - KENTUCKY - Adults caused 5-10 percent foliar loss at one location, damage ranged 0-10 percent in Warren County. (Barnett).

A CERAMBYCID BEETLE (Dectes texanus texanus) - NORTH CAROLINA - Adults emerged in Washington and Hyde Counties. First observation this year June 17, about 30 days earlier than previous years. Sweeps in one field revealed about 5 adults per 20 sweeps. (Van Duyn, Hunt).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - MISSISSIPPI - Averaged 1.5 per 3 row feet in Pearl River County. (Robinson).

PEANUTS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ALABAMA - Growers reported much damage in dry area peanuts in numerous fields in Houston and Henry Counties. (Bond et al.). OKLAHOMA - Populations in peanuts declined considerably following rain in Hughes County. (Okla. Coop. Sur.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Populations increased in south-central area. Infested square counts ranged 8-60 percent in infested fields in these counties. "Hot spots" beginning to spread out over fields where spot treatments not made. Weevil emergence observed throughout most central counties. Dry weather and parasites hampered development, but weevils continued to cause extensive damage to some fields. Counts varied greatly from one community to another. Punctured square counts ranged 10-90 percent in Hill County. First-generation weevils "hatched out" in larger numbers in north-central area. Some producers in Collin and Hunt Counties spot treated fields. Cotton just beginning to square in San Angelo area. Overwintered weevils beginning to lay eggs in developing fruit. Infestations light to moderate in Jones, Fisher, Kent, Knox, and Wilbarger Counties of Rolling Plains. Counts light in pheromone traps in Baylor and Wilbarger Counties; continued to decline. One adult captured on Leggett trap in Glasscock County of Trans-Pecos area. Punctured squares 1-2 percent in trap crop plantings along east edge of St. Lawrence area, Glasscock County. (Cole et al.).

OKLAHOMA - Boll weevil punctured squares ranged up to 40 percent in Stephens County and 0-28 percent in Wagoner, Muskogee, and McCurtain Counties. Averaged 20 percent in Jackson County, 14 percent in Tillman County, 8 percent in Greer County, 6 percent in Harmon County, 4 percent in Kiowa County, and less than one percent in Grady County. In Muskogee County, 22 weevils collected in 32 traps. (Okla. Coop. Sur.). MISSISSIPPI - Collection of overwintering weevils in Leggett traps decreased in Yalobusha County. Traps removed. Punctured squares ranged 0-26 percent in Noxubee, Lowndes, Chickasaw, and Yalobusha Counties. (Robinson).

ALABAMA - Boll weevil "hatch-out" continued in southern and central areas; square infestations ranged 5-75 percent depending on controls. Most growers into regular season control efforts as far north as Jefferson County. "Hatch-out" underway in older fields in valleys of northern area. Population light except in small fields surrounded by woods and other protected conditions. "Hatch-out" will not develop in mountain counties until July 18 and later. Infested square counts by overwintered weevils heavier in mountain cotton than in valley cotton in northern area. (Smith et al.). TENNESSEE - Percent punctured squares ranged 5-17 in central area. (Cagle). In western area, punctured squares ranged 2-85 percent. Populations much heavier in area than at same time in 1973. Percent punctured squares ranged 30-85 percent in April-

planted cotton in western area; ranged 36-40 percent in Henderson and McNairy Counties where squares numerous enough to make counts. (Patrick, Locke).

BOLLWORMS (Heliothis spp.) - NORTH CAROLINA - Activity in Scotland County fields under control in most cases. However, moth flight from corn and subsequent egg laying on cotton expected in area next 14 days. (Bradley). TENNESSEE - Counts ranged 0-3 eggs per 100 terminals and 0-3 larvae per 100 squares in central area, 1-3 eggs or larvae per 100 terminals in infested western area fields. Counts of 3-4 eggs per plant found on wild cotton in many fields in western area. (Cagle et al.). ALABAMA - Eggs and larvae generally light over State except in numerous fields where earlier control efforts for plant bugs or other reasons triggered bollworm problems. (Smith et al.).

MISSISSIPPI - Heliothis spp. egg counts light over State. Less than 2 percent in Coahoma, Tallahatchie, Quitman, Noxubee, and Monroe Counties. Moth flight expected about July 19. Larval infestations ranged from 0.4 percent in Coahoma County to 1 percent in Noxubee County. Damaged squares light, noneconomic. In 90-acre field accidentally treated early in June for Anthomus grandis (boll weevil), subsequent treatment for Heliothis spp. necessary. Counts currently 3 percent larvae and 8 percent damaged squares. (Oakman, Robinson). ARKANSAS - Sugar lines and/or light traps in operation in several counties in connection with cotton pest management programs. Moth counts variable over State; no significant increase reported. Determinations this period showed 9 H. zea (bollworm) and 3 H. virescens (tobacco budworm) moths taken at Pickens, Desha County, and 46 H. zea and 7 H. virescens moths at Burleigh, Jefferson County. (Boyer).

OKLAHOMA - H. zea eggs averaged 6 per 100 terminals, larvae 6 per 100 terminals, and damaged squares 4 percent in Tillman County; 4 eggs and 3 larvae per 100 terminals and 8 percent square damage in Jackson County; 3 eggs and 2 larvae per 100 terminals and 3 percent square damage in Greer County; and 2 eggs and 1 larva per 100 terminals and 1 percent square damage in Harmon County. Eggs ranged 2-3 per 100 terminals in Grady County. Some scattered H. virescens larvae found in Jackson County cotton. This is first occurrence of season. (Okla. Coop. Sur.). TEXAS - H. virescens damaged late-planted cotton near Batesville, Zavala County. Larval collections ranged 40-60 percent H. virescens in Brazos and Burleson Counties. Increased counts of H. zea larvae and eggs expected throughout south-central, central, and north-central cotton areas. Heliothis spp. caused 1-3 percent square damage in Knox and Kent Counties in Rolling Plains. Heliothis spp. activity and eggs light in Pecos and Reeves Counties of Trans-Pecos area. Damaged squares averaged 8 percent in isolated fields in Glasscock, Upton, and Reagan Counties. (Stewart et al.).

NEW MEXICO - Damage by H. zea larvae moderate on cotton near Hobbs Lea County, where terminals cut on every other plant. Larvae averaged one per 3 plants; Trichoplusia ni (cabbage looper) averaged one per 4 plants in area. Assessment of damage complicated by recent hail damage. H. zea egg counts still light in Dona Ana, Eddy, and Chaves Counties. (N.M. Coop. Rpt.).

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) - TEXAS - Very numerous in south-central area cotton; ranged up to 3 per plant in Robertson County, but no significant economic damage noted. Continued heavy in central area fields. Ranged up to 80 per 100 terminals in late-planted fields in Falls County; most cotton in area past damage. Light in north-central and Rolling Plains areas. Averaged 5 per 100 terminals in isolated fields in Glasscock County; ranged 1-7 per 100 terminals in Midland and Martin Counties, light in Lubbock County area. (Cole et al.). OKLAHOMA - Averaged 70 per 100 cotton terminals in Jackson County, 50 in Tillman County, 44 in Greer County, and 16 in Harmon and Kiowa Counties. Ranged 2-46 per 100 terminals in Washita and Caddo Counties and 0-28 in Wagoner and Muskogee Counties. Averaged 14,716 per acre in plot checked in Tipton area of Tillman County. (Okla. Coop. Sur.).

TOBACCO

GREEN PEACH APHID (Myzus persicae) - VIRGINIA - Increased in some tobacco fields in Pittsylvania County. (Dominick).

SUGAR BEETS

BEET LEAFHOPPER (Circulifer tenellus) - COLORADO - High populations noted in Granada area of Prowers County, 500-1,500 per 100 sweeps. (Schweissing).

BEANS AND PEAS

GREEN CLOVERWORM (Plathypena scabra) - MICHIGAN - Moths appeared in blacklight traps in Lenawee, Oceana, and Ottawa Counties. Damage will appear on beans and other crops soon. (Cress).

COLE CROPS

CABBAGE CURCULIO (Ceutorhynchus rapae) - MARYLAND - Adults heavy on broccoli and mustard greens near Forest Hill, Harford County. Species rare in State. (U. Md., Ent. Dept.).

)ECIDUOUS FRUITS AND NUTS

:ODLING MOTH (Laspeyresia pomonella) - WASHINGTON - Pheromone trap ounts in Grant and Adams Counties week ending July 6 very light n Royal Slope area; increased slightly but still light in Quincy nd George and in western Grant County; slightly heavier in phrata area. (Hunter).

BLIQUEBANDED LEAFROLLER (Choristoneura rosaceana) - MICHIGAN - irst larvae reported in Hart area, Oceana County, July 10. rchards should be checked periodically as this pest potentially erious this season due to presence of succulent terminal growth. Olsen).

HITEMARKED TUSSOCK MOTH (Hemerocampa leucostigma) - MICHIGAN - amage evident in some apple blocks and in some blueberry plant- ngs in Covert area, Van Buren County. All larval stages active. Olsen).

LUM CURCULIO (Conotrachelus nenuphar) - OHIO - Egg laying heavier n unsprayed Wayne County peaches than for past few seasons. Hall).

PPLE MAGGOT (Rhagoletis pomonella) - NEW YORK - As of July 8, no dults taken in emergence cages at Geneva, Ontario County, or at odus, Wayne County. Single adult taken in bait trap July 2 at odus; counts significant in bait traps at Geneva and Sodus uly 5. (Trammel, Brann). Flies first taken in bait traps July 6 t Brockport, Monroe County. (Norton). MICHIGAN - Emergence eported July 9 at Fennville, Allegan County. Controls should be pplied between adult emergence and oviposition to be successful. Olsen).

UROPEAN RED MITE (Panonychus ulmi) - MAINE - Appears well con- rolled on apples in most orchards; fruit bud development in third- over stage. Pest should be watched as populations may increase apidly. (Gall). MASSACHUSETTS - Averaged 5.5 per leaf in untreated ortion of commercial Hampshire County orchard. Averaged 0.2 per eaf in portion of same orchard with one dormant oil application. Jensen). OHIO - Ranged from 5-15 per leaf on Cortland apples to out 2-5 per leaf on Red Delicious in unsprayed Wayne County rchards. In sprayed blocks in county, pest not increasing as apidly as in past several years. (Hall).

ALL WEBWORM (Hyphantria cunea) - MISSISSIPPI - Continued to infest ecans across State. In Pearl River County, webs ranged up to 22 er tree. (Robinson). TEXAS - Still problem on pecans in Young ounty. Activity light in Ward, Winkler, Ector, Midland, and eeves Counties. Webs ranged 1-3 per infested tree. (Green). KLAHOMA - Infestations heavy in many areas on pecan, persimmon, weetgum, and other trees. Infestations on pecans seem lighter han usual in many areas. (Okla. Coop. Sur.).

ECAN NUT CASEBEARER (Acrobasis caryae) - OKLAHOMA - First- eneration pupation began in damaged pecan nutlets in Murray, arter, and Johnston Counties. (Okla. Coop. Sur.). TEXAS - Second- eneration larvae caused some damage to pecans in Tom Green and urrounding counties. (McWhorter). NEW MEXICO - Populations of his species and A. nuxivorella building up in Carlsbad area, Eddy ounty; full-grown second-generation larvae taken from nutlets.

Nutlet drop about 8-10 per tree. Few casebearer larvae recovered from Roswell area, Chaves County. A. caryivorella collected from young pecan planting where 30 percent of buds destroyed. In some cases, 3 separate bud patches observed on trees near Carlsbad, Eddy County. (N.M. Coop. Rpt.).

FILBERTWORM (Melissopus latiferreanus) - OREGON - First adult in Washington County taken July 9 in blacklight trap located in abandoned filbert orchard near Forest Grove; orchard untreated for 3 years. Examination of 200 nuts from this orchard in 1973 showed 46 percent infested. (Collins). Moth catches in blacklight trap at Pleasant Hill, Lane County, as follows: One July 1; none July 2 and 3; 13 July 4 and 5; 5 July 6 and 7; 10 July 8. (Tinker, Penrose).

WALNUT CATERPILLAR (Datana integerrima) - OKLAHOMA - Scattered moderate to heavy infestations reported on pecans in Payne, Noble, Garvin, Murray, and Pontotoc Counties. (Okla. Coop. Sur.).

YELLOW PECAN APHIDS (Monellia spp.) - MISSISSIPPI - Moderate to heavy on 1,500 acres of pecans in Pearl River County. Honeydew present, treatment necessary. (Robinson). TEXAS - Increased on pecans in Bell and McLennan Counties and in Tom Green County area. Light to moderate on pecan foliage in Brewster, Jeff Davis, Upton, Glasscock, Midland, Ector, Ward, Pecos, Winkler, and Reeves Counties. (Hoelscher et al.).

BLACKMARGINED APHID (Monellia costalis) - OKLAHOMA - Ranged up to 25 per leaf on pecans in Pontotoc County. Absent or very light in several other counties. (Okla. Coop. Sur.).

PECAN SPITTLEBUG (Clastoptera achatina) - MISSISSIPPI - Moderate to heavy on 100 acres of pecans in Lowndes County. (Neel).

SMALL FRUITS

BLUEBERRY MAGGOT (Rhagoletis mendax) - MAINE - First adults found in bait traps July 4 and in emergence cages July 8 at Jonesboro. (Gall). NEW JERSEY - Adults heavy in traps, flight will remain heavy next 14-21 days. (Ins.-Dis. Newsltr.). MICHIGAN - Emerged July 8 at New Buffalo, Berrien County, July 11 at Saugatuck, Allegan County. First sprays must be applied by July 15 in southern range and July 18 in northern range. (Olsen).

FOREST AND SHADE TREES

JACK PINE BUDWORM (Choristoneura pinus) - MICHIGAN - Moderate to heavy on pines in Clare County; infestations heavier than for past 10 years. Most larvae pupated. Adult emergence underway in Lake County. (Mosher).

SPRUCE BUDWORM (Choristoneura fumiferana) - NEW HAMPSHIRE - General emergence underway. Adults taken throughout southern area at lights July 11. (Mason).

FRUITTREE LEAFROLLER (Archips argyrospilus) - CALIFORNIA - Heavy larval populations defoliated native buckeye trees at Bakersfield, Kern County. This is first season this occurred. (Cal. Coop. Rpt.).

ELM LEAF BEETLE (Pyrrhalta luteola) - CALIFORNIA - Heavy populations infested elm trees at location in Dixon, Solano County. (Cal. Coop. Rpt.). OKLAHOMA - Heavy defoliation of elms noted in several counties. (Okla. Coop. Sur.).

WOOLLY ELM APHID (Eriosoma ulmi) - NEVADA - Very light and scattered on elms in Reno, Washoe County. Collected July 10, 1974, from Ulmus procera by R.C. Bechtel and R.M. Hawthorne. Determined by T. Kono. This is a new State record. (Bechtel, Hawthorne).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 234 cases reported from continental U.S. during period June 23-29 as follows: Texas 219, New Mexico 2, Arizona 8, California 5. Total of 242 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 178,096,200 as follows: Texas 158,458,200; New Mexico 873,000; Arizona 17,055,000; California 1,710,000. Total of 47,202,000 sterile flies released in Mexico. (Anim. Health).

HORN FLY (Haematobia irritans) - FLORIDA - Averaged from low of 10 per side per beef animal to high of 109 per side among herds in Gainesville area, Alachua County. Population relatively low, probably due to recent heavy rains. (Fla. Coop. Sur.). MISSISSIPPI - Ranged up to 1,200+ per head on Angus cattle in Oktibbeha County. (Robinson). TENNESSEE - Counts per head on cattle averaged 75+ in Shelby and Tipton Counties, ranged 100-150 in Dyer County. (Gordon). KENTUCKY - Averaged 400 per animal on Fayette County cattle. (Barnett, Herald). OHIO - Severe, 750-1,000 per side, on 2 of 14 Black Angus steers checked in Jackson County; ranged 15-250+ per side on remaining cattle.(Fox). OKLAHOMA - Ranged 700-800 per head on cattle checked in Noble County and 350-400 per head in Major County. (Okla. Coop. Sur.). TEXAS - Reported on cattle throughout most areas of State. Hot, dry weather holding population levels down. Moderate on cattle throughout the hill country and Edwards Plateau in southwest part of State. Infestations continued to decline in Rolling Plains area. Infestations heavy in some herds in Knox County, moderate in parts of Archer County. (McWhorter, Boring).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Ranged 10-28 per head on 10-head sample of cattle in Monroe County. In Lee County, averaged 8 per face on 4 head. (Gregory, Wilson). MISSOURI - Increased during past 14 days, ranged 5-40 per head. (Munson). KENTUCKY - Averaged 22.6 per animal on cattle in Allen County and 8 per animal in Fayette County. (Barnett, Herald).

STABLE FLY (Stomoxys calcitrans) - WASHINGTON - Seriously annoyed cattle at large feed lot in Trinidad area, Douglas County. Largely due to poor sanitation with accumulations of rotting feed and bedding material. (Kulp, Harwood).

MOSQUITOES - MAINE - Aedes triseriatus adults appeared in central area. (Gall). MASSACHUSETTS - Anopheles punctipennis, Coquillettidia perturbans, Aedes spp., and Culex spp. taken locally in light traps and bite collections July 7-9. Aedes sticticus taken for first time this season. (Branch, Drozdowski). ALABAMA - Culex pipiens quinquefasicatus and other species heavy throughout Monroe, Tuscaloosa, Lee, and many other counties. Concerned citizens

asking for community control programs. (Lemons et al.). OHIO - In 2 light traps at Toledo, Lucas County, 2,540 mosquito adults collected July 2, including Anopheles spp., Culex spp., and Coquillettidia spp. In Franklin County, 4 traps collected 128 mosquitoes July 11 and 12: primarily Culiseta inornata, Aedes vexans, A. trivittatus, and Culex spp. Although still generally light statewide, mosquitoes warranted controls in Lake County. (Ohio Dept. Health).

INDIANA - Bites by mosquitoes ranged 0-23 per 5-minute period in 3 central districts July 8 to 10. Populations more varied in west-central district; with single exception, all Psorophora spp. collected were from west-central district. Aedes trivittatus collected at 11 of 14 sites and accounted for 37 percent of 111 specimens taken. No culicine mosquitoes taken while biting, but swept from vegetation at 3 sites. (Meyer). MINNESOTA - Collected 20,086 females in 14 light traps operated in Metropolitan Mosquito Control District. Of these, 16,968 were Aedes vexans, 2,196 were Coquillettidia perturbans; these accounted for 95.41 percent of total. Aedes vexans peaked, counts should decline. C. perturbans expected to peak next period. In 421 five-minute daytime bite collections 4,524 specimens collected; 11 Aedes spp., C. perturbans, and Psorophora howardi taken. (Minn. Pest Rpt.).

A TABANID FLY (Hamatabanus carolinensis) - DELAWARE - Adult collected in New Castle County, attracted to man. Collected and determined by R.W. Lake July 5, 1974. This is a new State record. (Burbutis).

A BLACK FLY (Simulium nyssa) - MAINE - Abundant in Orono area since last week of June; has been major pest of man in lower Penobscot Valley since 1968. Currently, much worse than S. venustum. (Gall).

BROWN DOG TICK (Rhipicephalus sanguineus) - TENNESSEE - Very heavy in home in Dyersburg, Dyer County; crawling on walls and porches. (Stafford). Populations unusually heavy throughout western area. (Locke).

HOUSEHOLDS AND STRUCTURES

A VESPID WASP (Vespula vidua) - WEST VIRGINIA - Adults collected in farm house at Sewell Mountain, Greenbrier County, July 10, 1974. Collected and determined by C.C. Coffman. This is a new county record. (Coffman).

BENEFICIAL INSECTS

LADY BEETLES - KANSAS - Scarce in southwest district sorghum fields; few found in north-central district. In sorghum heavily infested with Rhopalosiphum maidis (corn leaf aphid) in Riley County, Hippodamia convergens (convergent lady beetle) averaged 2 adults, 2 larvae, and 0.5 egg mass per plant. (Bell). OKLAHOMA - Lady beetles, mainly H. convergens, averaged 10,596 per acre in Tillman County cotton. (Okla. Coop. Sur.).

A PUNCTUREVINE SEED WEEVIL (Microlarinus lareynii) - OKLAHOMA - Adults taken on puncturevine in Jimtown area, Love County. This is a new county record. (Okla. Coop. Sur.). NEW MEXICO - Destroyed about 2 percent of puncturevine seed south of Carlsbad, Eddy County. (N.M. Coop. Rpt.).

CEREAL LEAF BEETLE PARASITOIDS - OHIO - Tetrastichus julis (a eulophid wasp), and Lemophagus curtus, Diaparsis carnifer, and Diaparsis sp. (ichneumon wasps), larval parasitoids of Oulema melanopus, released at 114 sites, including 4 field insectaries. Establishment confirmed for T. julis at Preble and Guernsey County insectaries and for L. curtus at Coshocton County insectary. (Kruse).

A BRACONID WASP (Lysiphlebus testaceipes) - KANSAS - Significant numbers parasitized Schizaphis graminum (greenbug) in some Nemaha County sorghum; no parasitism noted in sorghum surveyed in southwest district, north-central district, or in Butler, Harvey, and Sedgwick Counties. (Bell).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CEREAL LEAF BEETLE (Oulema melanopus) - NEW YORK - Still observed in many parts of western and central areas of State. Larval averages per square foot ranged 0-3 in 8 fields of oats sampled in Tompkins County July 9; adults ranged 0-10 in same fields. No eggs found, most adults appeared to have emerged this season. Total of 83 acres of oats sampled. (Sliwa). MICHIGAN - Very light in Presque Isle County grains this season. About 50 percent of growers in county treated, few beetles found in many fields. Damage light in Oscoda County; appeared only on light, sandy soils. Sprays will probably not be necessary. Pest difficult to find in Alpena County grain fields. (Sauer).

EUROPEAN CHAFER (Amphimallon majalis) - OHIO - Adult emergence heavy July 5 in State regulated vicinities of Cleveland, Cuyahoga County. One adult detected outside regulated areas; area to be quarantined and treated. (Mizer).

GRASSHOPPERS - OKLAHOMA - Heavy defoliation of oaks by Dendrotettix quercus noted along southern edge of Lake Murray, Love County. Moderate defoliation noted in Leon area, Love County, and Big Canyon area, Murray County. Murray County is a new county record. (Okla. Coop. Sur.). KANSAS - Nymphs of unspecified species ranged up to 6 per square yard in weedy field borders and ditch banks in Clay County; up to 4 in similar situations in Cloud County; and up to 12 in Phillips County. (Bell).

NORTH DAKOTA - Grasshoppers scattered in favorable habitats in parts of Bottineau and McHenry Counties. Ranged up to 20 (average 7) per square yard in weedy roadsides and fence rows in McHenry County. Field infestations ranged up to 15 per square yard in some sweet clover fields but averaged 4 in all fields. In Bottineau County, counts ranged up to 20 (average 5) in weedy roadsides while field counts ranged up to 30 (average 2) per square yard in sweet clover. Some light marginal damage evident in wheat in Bottineau County. Development ranged from first instar through adults with most nymphs in fourth instar. Dominant species Melanoplus sanguinipes, M. bivittatus, and M. packardii. (Brandvik).

COLORADO - Drought stricken rangeland areas in Pueblo and Huerfano Counties damaged by economic populations of Melanoplus sanguinipes, M. packardii, and Aulocara elliotti. Ranged 10-20 per square yard; controls planned. (Keenan et al.). IDAHO - Small nymphs of Camnula pellucida, Agenotettix deorum, and M. sanguinipes, estimated at 50-100 per square yard, emerged from hatching beds near Orofino, Clearwater County, July 1. (Fitzsimmons). NEVADA - Aulocara elliotti adults ranged 10-40 (averages 15-20) per square yard on 140 acres of alfalfa in Smokey Valley, Lander County. (Rowe).

OREGON - Mixed rangeland species, with Oedaleonotus enigma dominant and including Melanoplus spp., at low levels and generally noneconomic on eastern area rangelands. Small infestations present in Malheur and Wasco Counties totaling 11,700 and 640 acres respectively. Damage evident along margins of dryland grain fields in Malheur County, but further damage not anticipated as grain nearly mature. Grasshoppers and crickets nearly full grown except at higher elevations. Much mating by O. enigma apparent. (Goeden et al.). WASHINGTON - M. sanguinipes economic at 15-20 per square yard on rangeland between Prosser and West Richland, Benton County. Homeowner east of Benton City reported defoliation of shade trees and garden. Elsewhere in eastern area, counts remained noneconomic except for small localized spots. (Gerlitz).

JAPANESE BEETLE (Popillia japonica)- NEW HAMPSHIRE - Adults first seen in Durham, Strafford County, July 3. Since observed in Manchester and Concord area of Hillsboro and Merrimack Counties. (Kruger et al.). RHODE ISLAND - Observed in large populations statewide. (Relli). CONNECTICUT - Very heavy this season, particularly in south-central area. (Savos). MARYLAND - Adult feeding heavy on 20 acres of silking field corn near Easton, Talbot County. Numbers peaked in most areas of State. (U. Md., Ent. Dept.). WEST VIRGINIA - Adults caused heavy damage to trees and shrubs in Morgan, Berkeley, Jefferson, and Hardy Counties. Damage heaviest on Prunus sp., oaks, and on Natob lespedeza. (Brooks, Gibson). VIRGINIA - Damage in most areas of Montgomery County light again this year. Initial emergence about July 4 subsided with populations very much reduced. (Allen).

Fruits and Nuts - VAGRANT GRASSHOPPER (Schistocerca vaga) moderate on citrus at Wailuku, Maui. Heavy damage observed on terminal leaves. Similar damage to citrus reported at Kahului. (Miyahira, Ah Sam). BANANA SKIPPER (Erionota thrax) infestation reported on Maui (see CEIR 24(28):527) involved only 6-8 trees. All trees on same premise. Although infestation light, damage to infested leaves ranged light to heavy. Larvae destroyed as much as 50 percent of leaf area of infested leaves. (Miyahira).

Man and Animals - MOSQUITO collections from 72 light traps operated on Oahu during May totaled 1,593 females of Aedes vexans nocturnus and 1,800 females of Culex pipiens quinquefasciatus. Aedes catches averaged 22.1 females per trap and Culex catches averaged 25 females per trap. (Vector Control Br., State Dept. Health).

Beneficial Insects - Survey of about 200 acres of wild blackberry at Waikamoi, Maui, showed larval populations of a TORTRICID MOTH (Apotoforma sp.) very heavy; about 100 percent of terminal leaves infested. Some dieback of terminals noted. (Wong). About 73 percent of gorse seed pods infested with larvae of a GORSE WEEVIL (Apion ulicis); averaged 8 larvae per seed pod. Inspected 400 seed pods. Infestation was 1.5 percent in January 1974. (Wong, Ah Sam). Survey of activity of an ENCYRTID WASP (Ooencyrtus erionotae) at a location near Pearl City, Oahu, indicated parasitism of this egg parasite of Erionota thrax (banana skipper) continued heavy in area. Of 13 E. thrax egg clusters collected, 12 had at least one egg parasitized by O. erionotae; also, 109 of 148 eggs were parasitized. (Mau).

DETECTION

New State Records - A TABANID FLY (Hamatabanus carolinensis) - DELAWARE - New Castle County. (p. 552). A WOOLLY ELM APHID (Eriosoma ulmi) - NEVADA - Washoe County. (p. 551).

New County Records

GULF WIREWORM (Conoderus amplicollis) - TEXAS - Adult taken in blacklight trap June 3, 1972, in El Paso County.

A GRASSHOPPER (Dendrotettix quercus) OKLAHOMA - Murray (p. 553). A PUNCTUREVINE SEED WEEVIL (Microlarinus lareynii) OKLAHOMA - Love (p. 553). A VESPID WASP (Vespula vidua) WEST VIRGINIA - Greenbrier (p. 552).

CORRECTIONS

CEIR 24(27):507 - STABLE FLY (Haematobia irritans) should read STABLE FLY (Stomoxys calcitrans).

CEIR 24(26):481 - ALFALFA LEAF BLOTCH-MINER (Agromyza frontella) PENNSYLVANIA ... (Myers). should read ALFALFA BLOTCH LEAFMINER (Agromyza frontella) - PENNSYLVANIA - ... (Byers). The common name should be changed on pages 183, 364, and 408 also. (PPQ).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight; I = incandescent; MV = mercury vapor; O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (salt-marsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Mandula quinquemaculata (tomato hornworm)	Mandula sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellow-striped armyworm)	Trichoplusia ni (cabbage looper)	Crops
FLORIDA																								
Gainesville 7/5-11			BL					6	1							1				1	4	1		
INDIANA (Districts)																								
South West 6/28-7/4			2BL	19													1	90	143					
West Central 6/28-7/4			3BL	3													2	9	106					
IOWA																								
Beaconsfield 7/2-8			BL	60														45	89					
Gilbert 7 3-8			BL	89													11	23	145					
KANSAS																								
Great Bend 7/3-9			BL	8		1	23											2	5			3		
Tribune 7/3-9			BL				89												2			1		
KENTUCKY																								
Lexington 7/5-12			BL	10				5		11								8						
MICHIGAN (County)																								
Oceana 7/1-8			2BL	38													23		113					
MISSISSIPPI																								
Stoneville 7/5-11	69-94	0.57	2BL	15				20	3	65						2		10	27	1	4	136	6	
NEBRASKA																								
Clay 7/5-11			BL	9			53										4	34	19					
North Platte 7/5-11			BL																15					
NEW HAMPSHIRE																								
Lee 7/8			BL	3	2																			
NEW JERSEY																								
Seabrook 7/3-9			7BL	17						6			34				40							
Vineland 7/3-9			7BL	10									7				1							
NEW MEXICO																								
Las Cruces 7/8-12			BL							1					6									

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm corn earworm tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
NORTH DAKOTA																							
Bismark 7/3,5			BL														5		2			2	
Fargo 7/9,11,13			BL														18		38			2	
OHIO																							
Wooster 7/6-12			BL	119			8										9	23	242		3		
OREGON (Counties)																							
Linn 7/5-10			BL	1														5					
Marion 7/5-10			BL	1														7					
SOUTH DAKOTA																							
Brookings 7/3-10			BL	15			26										76	1	130				
TENNESSEE (Counties)																							
Hardeman 7/8-12			BL					9									2	4	2		23	2	
Madison 7/8-12			BL					2								1	1	1	5		12		
WEST VIRGINIA (Counties)																							
Monroe 7/9			BL	5	8													13	46			3	
Randolph 7/9			BL	15	6													27	50		1	2	
WISCONSIN																							
Hancock 7/3-10			BL															1					
Mazomanie 7/3-10			BL	2													1	2	16				

More Records of Massachusetts Aphids (Homoptera: Aphididae)

Mortimer D. Leonard 1/

ABSTRACT - Many additional determinations by F.W. Quednau of winged aphids in a yellow water pan at Amherst, Massachusetts, revealed the presence of 22 species of aphids so far unknown in Massachusetts and several of the remaining 20 species are but little known.

In 1966, Dr. C.P. Alexander exposed a yellow water pan in his backyard in Amherst, Massachusetts, throughout August and up to September 15. Dr. F.W. Quednau of the Canadian Forestry Station at Quebec determined a number of these winged aphids. The results were published by M.D. Leonard in Proc. Ent. Soc. Wash. 72(2): 201-202, 1970.

The results of many more of Quednau's determinations from this yellow pan have become available to me. They add 22 species to the Massachusetts list and several others are but little known in the State. Only 12 specimens were collected in September.

About 200 species of aphids are now known to occur in Massachusetts.

Dr. Dean G. Dillery of Albion College, Albion, Michigan, determined a number of specimens of Drepanaphis from this yellow pan. These are attributed separately to him.

The list of the records follows. Those new to Massachusetts are indicated by an asterisk (*).

* Acyrthosiphon scariolae (Nevsky). 18.VIII, one alate; 19-24.VIII, one alate.

Anoecia corni (Fabricius). 18.VIII, one alate.

* Anoecia graminis Gillette & Palmer. 1-15.IX, one alate. In Colorado, rare.

* Aphis armoraciae Cowen. 1-7.VIII, one alate.

Aphis coreopsidis (Thomas). 15-22.VIII, one alate.

Aphis craccivora Koch. 8-14.VIII, 3 alates; 15-22.VIII, 3 alates; 20-23.VIII, 3 alates.

Aphis fabae Scopoli. 8-14.VIII, 6 alates; 15-22.VIII, 6 alates; 20-23.VIII, 8 alates; 25-31.VIII, 14 alates; 8-15.IX, 1 alate.

Aphis gossypii Glover. 8-15.VIII, 34 alates; 15-22.VIII 28 alates; 20-23.VIII, 42 alates; 19-24.VIII, 17 alates; 25-31.VIII, 18 alates.

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Aphis helianthi Monell. 8-14.VIII, 6 alates; 19-24.VIII, 4 alates.

* Aphis rubifolii (Thomas). 9-14.VIII, 2 alates; 18.VIII, one alate; 20-23.VIII, one alate; 25-31.VIII, one alate; 1-15.IX, one alate.

Aphis spiraecola Patch. 8-14.VIII, 22 alates; 20-23.VIII, 6 alates; 8-15.IX, 2 alates.

Appendiseta robiniae - see Myzocallis robiniae (Gillette).

* Brachycaudus cardui (Linnaeus). 18.VIII, one alate; 8-15.IX, one alate.

Brachycaudus helichrysi (Kaltenbach). 8-15.VIII, one alate.

* Brachycaudus rociadae (Cockerell). 18.VIII, 3 alates. Only in Colorado and New Mexico.

Capitophorus hippophaes (Walker). 8,14,15.VIII, 3 alates.

* Capitophorus xanthii Oestlund. 8-14.VIII, 8 alates; 18.VIII, 5 alates; 19-24.VIII, 5 alates; 15-22.VIII, 7 alates; 20-23.VIII, 7 alates; 25-31.VIII, 3 alates.

Cavariella aegopodii (Scopoli). 8-14.VIII, one alate.

* Cavariella salicis (Monell). 15-22.VIII, one alate; 20-23.VIII, one alate; 25-31.VIII, one alate.

* Cedoaphis incognita (Hottes & Frison). 8-14.VIII, 2 alates; 1-15.IX, one alate. Minnesota, Colorado, Utah, rare.

* Chaitophorus nigrae Oestlund. 19-24.VIII, one alate.

* Chaitophorus stevensis Sanborn. 8-14.VIII, one alate.

* Dactynotus sonchi (Linnaeus). 18.VIII, 2 alates.

* Dactynotus taraxaci (Kaltenbach). 18.VIII, one alate.

Drepanaphis carolinensis Smith. 18.VIII, one alate (FWQ det.). Dillery det., 1-7.VIII, 2 alates; 12-22.VIII, 3 alates; 18.VIII, 9 alates; 20-23.VIII, 5 alates; 19-24.VIII, 2 alates; 1-7.IX, 2 alates; 8-15.IX, 2 alates; 10.IX, 2 alates.

Drepanaphis kanzensis Smith. Dillery det., 18.VIII, 2 alates; 12-22.VIII, one alate; one previous collection in the yellow pan 1964.

* Drepanaphis parva Smith. Dillery det., 12-22.VIII, one alate; 18.VIII, one alate; 8-15.IX, one alate.

Drepanaphis sabrinae Miller. Dillery det., 8-14.VIII, one alate; 20-23.VIII, one alate; 19-24.VIII, one alate; 25-31.VIII, one alate; 1-7.IX, 5 alates; 8-15.IX, 2 alate viviparae, one male; 10.IX, 4 alates.

Drepanaphis simpsoni Smith. 8-14.VIII, one alate and 15-22.VIII, one alate (FWQ det.). Dillery det., 8-14.VIII, 4 alates; 8.VIII, 5 alates; 20-23.VIII, one alate; 19-24.VIII, one alate; 25-31.VIII, 2 alates; 8-15.IX, one alate.

Fimbriaphis scammelli (Mason). 8-14.VIII, one alate.

Hyadaphis erysimi (Kaltenbach) (Syn. Hyadaphis pseudobrassicae (Davis)). 1-7.VIII, 3 alates; 19-24.VIII, 9 alates; 18.VIII, one alate; 25-31.VIII, one alate; 15-22.VIII, 4 alates; 20-23.VIII, 4 alates; 8-14.VIII, 9 alates.

Hyalopterus atriplicis (Linnaeus). 1-7.VIII, 4 alates; 8-14.VIII, 14 alates; 18.VIII, one alate; 20-23.VIII, 2 alates.

* Kakimia purpurascens (Oestlund). 8-14.VIII, one alate.

* Macrosiphum agrimoniellum (Cockerell). 25-31.VIII, one alate.

* Macrosiphum coryli Davis. 19-24.VIII, one alate.

Monelliopsis caryae (Monell). 18.VIII, one alate.

Myzocallis exultans Boudreaux & Tissot. 15-22.VIII, one alate.

Myzocallis punctata (Monell). 19-24.VIII, 2 alates; 15-22.VIII, one alate; 20-23.VIII, 3 alates.

* Myzocallis robiniae (Gillette). 18.VIII, 2 alates; 19-24.VIII, one alate.

* Rhopalosiphum cerasifoliae (Fitch). 20-23.VIII, one alate.

Rhopalosiphum maidis (Fitch). 8-14.VIII, one alate; 19-24.VIII, one alate; 15-22.VIII, one alate; 20-23.VIII, 4 alates.

* Tinocallis ulmifolii (Monell). 8-14.VIII, 9 alates; 18.VIII, 10 alates; 15-22.VIII, one alate; 20-23.VIII, 5 alates; 25-31.VIII, 2 alates.

* Wahlgreniella vaccinii (Theobald). 18.VIII, one alate.

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
24(29):558-560, 1974

Aphids Collected in Arizona by S.M. Dohanian
(Homoptera: Aphididae)

Mortimer D. Leonard 1/

After spending a little over 40 years as a parasite explorer and plant quarantine inspector for the U.S. Dept. of Agriculture, Senekerim M. Dohanian retired in 1960. In order to avoid the cold weather in his home in New Hampshire he spent several winters in Arizona. While there he made a few collections of aphids for me. There appears to be little else known about aphids in Arizona. The results are as follows:

Acyrthosiphon pisum (Harris) (pea aphid). South Phoenix, 12-14.III.63, on alfalfa.

Aphis nerii Fonscelombe. Sunnyslope, 30.III.62, on oleander

Aphis fabae Scopoli (bean aphid). North Phoenix, 12-14.III.63, on Euonymus sp. (abundant).

Aphis pomi De Geer (apple aphid). North Phoenix, 12-14.III.63, on Cotoneaster sp. and Eriobotrya japonica.

Aphis spiraecola Patch (spiraea aphid). Sunnyslope, 30.III.62, and South Phoenix, 12-14.III.63, on Pyracantha sp.

Dactynotus erigeronensis baccharidis (Clarke). Tempe, 4.IV.63, on Baccharis sp.

Macrosiphum euphorbiae (Thomas) (potato aphid). Phoenix, 16.III.65, on Rosa sp. Tempe, 12-14.III.63, and 21.III.65, on Rosa sp. West Phoenix, 12-14.III.63, on Rosa sp.

Macrosiphoniella sanborni (Gillette) (chrysanthemum aphid). Tempe, 12-14.III.63, on Chrysanthemum sp.

Myzus persicae (Sulzer) (green peach aphid). Phoenix, 25.II.62, on Aloe sp.; 9.III.62, on Sphaeralcea sp. (abundant); 4.I.62, on cult. chranthemums, indoors; 30.III.62, on lemon; 12-14.III.63, and 4.IV.63, on ocatillo, Fouqueria splendens, outdoors; 22.III.65, on Mathiola incana. South Phoenix, 12-14.III.63, on Raphanus sativus; 12-14.III.63, on cotton in greenhouse; 12-14.III.63, on cholla, Opuntia sp. North Phoenix, 12-14.III.63, on Hibiscus sp. Mesa, 16.III.62, on safflower and beets, abundant. Tempe, 21.XII.61, on Malva parviflora; 21.III.65, on Hibiscus sp.; 16.III.62, on Sonchus sp. South Tempe, 15.III.65, on Iberis amara. Sunnyslope, 30.III.62, on Pyracantha sp.

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Pentalonia nigronervosa Cockerell. South Phoenix, 12-14.III.63, on banana in greenhouse.

Rhopalosiphum maidis (Fitch) (corn leaf aphid). Tempe, 12-14.III.63, on barley.

Therioaphis maculata Buckton (spotted alfalfa aphid). South Phoenix 12-14.III.63, on alfalfa.

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
24(29):561-562, 1974

WEATHER OF THE WEEK ENDING JULY 15

eprinted from Weekly Weather and Crop Bulletin supplied by nvironmental Data Service, NOAA.

RECIPITATION: Across the Nation some areas received locally eavy showers last week. Rain totaling 2 inches fell in Ohio, ndiana, Iowa, Tennessee, western Florida, southern Arkansas, nd northern California. Other areas receiving significant rain ncluded Cape Hatteras, North Carolina, Milwaukee, Wisconsin, ew Orleans, Louisiana, southwestern Pennsylvania, from Birming-am, Alabama north to Knoxville, Tennessee, and along the Washing-on coast. Early in the week, a Low over Ontario brought thunder-torms to the upper Plains and western Minnesota. Isolated hunderstorms dumped locally heavy rain in parts of southern New exico and Texas. Meanwhile, the Low moved inland from the Pacific oast triggering showers over northern California and parts of the orthwest. Marysville, California, recorded over 1.25 inches in nly six hours. Tuesday, unusually heavy rainfall persisted in arts of northern California and the coastal Northwest. Much eeded rain fell across normally dry areas of northern California nd western Nevada. On Wednesday, heavy thunderstorms spread from owa and eastern Missouri into central Illinois and south through ississippi and Alabama. Some golfball-size hail fell in eastern owa and northern Mississippi. Olin, Iowa, reported 4.50 inches f rain in just over an hour. Late Wednesday, there were some ood showers over Washington and western Montana which helped pring grains. Thursday, some heavy thunderstorms developed near cold front along western portions of the central and northern lains. Several central North Dakota communities reported over inch of rain in less than an hour. Early Friday, thunderstorms roduced by a Low over Huron, South Dakota, pushed across the orthern Plains triggering several tornadoes near Devils Lake, ew Rockford, and Strasburg, North Dakota. Saturday, a Low riggered thunderstorms from western South Dakota across southeast orth Dakota and most of Minnesota into northwest Wisconsin. everal tornadoes roared through southeast South Dakota and west-entral Minnesota. Sunday, a cold front trailed from eastern Canada hrough central Minnesota into southern Wyoming. As the front oved slowly southeastward, it triggered showers and thunder-howers from South Dakota to southern Lake Superior.

EMPERATURE: Many areas of the Nation's midsection reported above ormal temperatures last week. Parts of New England and the South tlantic States were below normal. The Far West, including sections f Texas, the southeastern seaboard, and sections of Kentucky and ennessee recorded temperatures below normal for the week. Early n the week, hot weather prevailed in most places east of the ockies. Monday, record highs were set at Sioux Falls, South akota, 101 degrees; Baltimore, Maryland, 99 degrees; and Atlantic ity, New Jersey, 94 degrees. Temperatures of 90 degrees and above overed a large part of the Nation Monday. A band of 100-degree eadings were recorded in the Desert Southwest.

Tuesday, the hottest area stretched from north-central Texas through central Oklahoma into southwestern Iowa. West of the Rockies temperatures were cooler. From the central Applachians east it was humid and hazy with light winds.

Wednesday, haze and fog dimmed the sunrise in the eastern fourth of the Nation. The heaviest fog surrounded the Appalachians and Piedmont areas. Meanwhile, western parts of the Nation remained hot with temperatures in the upper 90's. Ponca City, Oklahoma, reached 99 degrees by early afternoon, Huron, South Dakota, reported 97 degrees, Hutchison, Kansas, 96, and Miles City, Montana, 98. Thursday, warm tropical air continued to dominate the weather over the southern half of the Nation to south of a frontal system that reached from southern Pennsylvania into the Dakotas. Friday, a high caused some record low temperatures in the Great Lakes region--Lansing, Michigan, 43 degrees and Muskegon, Michigan, 50 degrees. Temperatures remained mild in the Plains and Southeastern United States with most spots in the 60's and 70's. Readings along the Pacific coast ranged from the 50's to the 60's. Saturday, a High over West Virginia kept portions of Eastern United States cool. Record lows were set at Beckley, West Virginia, 48 degrees, Scranton, Pennsylvania, 50, and Charleston, West Virginia, 54 degrees. Sunday, a cold front trailing through the Midwest from Canada cooled off portions of the northern Plains with readings in the 50's.

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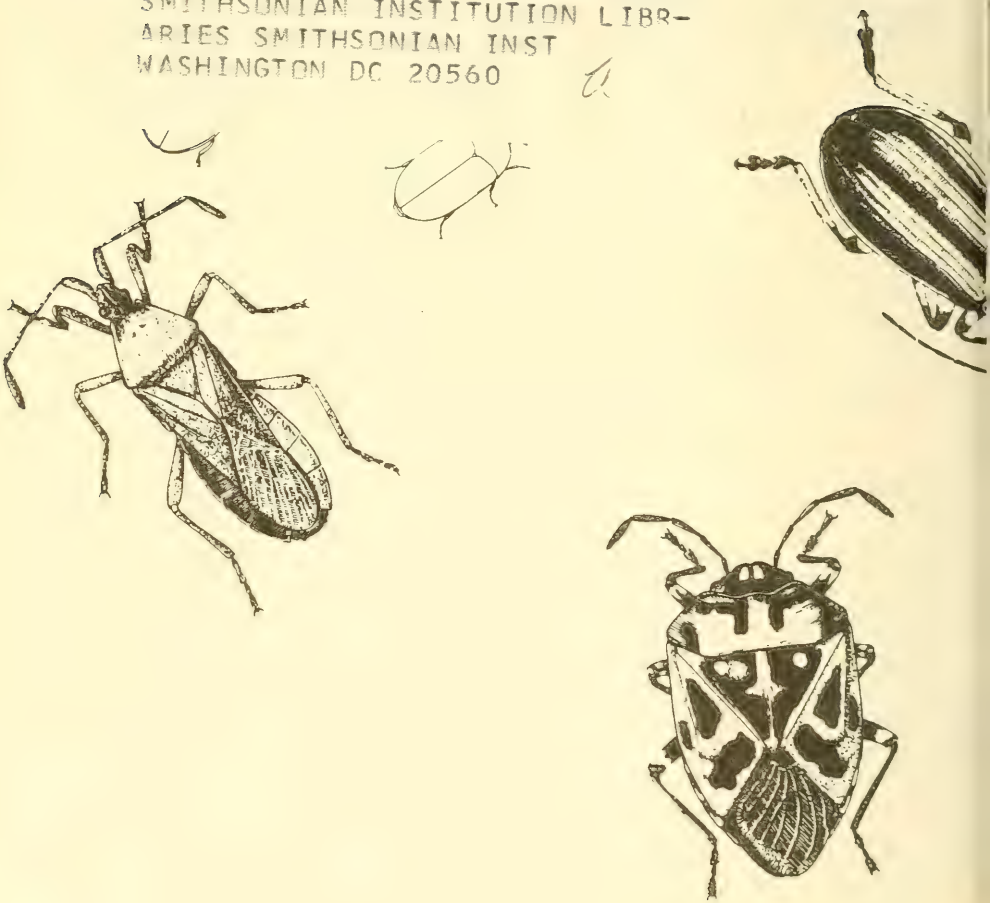

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July 26, 1974

Cooperative Economic Insect Report

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ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

All reports and inquiries pertaining to this release, including the mailing list, should be sent to:

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Animal and Plant Health Inspection Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20782

Volume 24 July 26, 1974 Number 30

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

ASTER LEAFHOPPER heavy in small grains in southern Red River Valley of North Dakota, infection rate heavy for this time of year in Wisconsin. CORN LEAF APHID heavy in some sorghum in Texas and Oklahoma, development rapid in corn in Wisconsin, and pest heavy on corn and sorghum in Illinois. Corn and sorghum under stress in some areas due to dry conditions. GREENBUG increased greatly on sorghum in areas of Texas, Oklahoma, Kansas, and Nebraska as drought continued. (pp. 567-569).

EUROPEAN CORN BORER adult emergence underway in Missouri and Illinois; present situation indicates great potential for severe situation when second-generation larvae appear in Wisconsin. CORN ROOTWORM larval damage more pronounced than normal in Illinois corn. SORGHUM MIDGE heavy in late sorghum in central Texas. (pp. 570-572).

SPRUCE BUDWORM moth flights reported heavy in Michigan, Ohio, and New York; probably blown in on severe storm. (p. 580).

GRASSHOPPERS heavy on several hundred thousand acres of rangeland in Montana, moved into small grains; outbreaks reported in Utah. (P. 584).

Detection

- ORANGE SPINY WHITEFLY detected on citrus, rose, and pear in Hawaii. This is first record of this major pest of citrus in tropical Asia for the United States, but it does not occur in the continental U.S. (p. 585).

- A CECIDOMYIID MIDGE reported from Georgia is a new United States record. This pest of sorrel is known to occur in Europe. (p. 583).

New State records include EUROPEAN ALFALFA BEETLE (p. 574) and A POWDER-POST TERMITE (p. 582) in Maryland, A PSYLLID in West Virginia (p. 581), and an APHID in Hawaii (p. 578).

For new county records see page 585.

Special Reports

Tropidosteptes pacificus, A Western Ash Plant Bug Introduced into Pennsylvania with Nursery Stock. (pp. 588-589).

Insects Not Known to Occur in the Continental United States
New Caledonian Orchid Pest (Nysius caledoniae (Distant)). (pp. 590-591).

Reports in this issue are for week ending July 19 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING JULY 22

Reprinted from Weekly Weather and Crop Bulletin supplied by Environmental Data Service, NOAA.

PRECIPITATION: Rainfall amounts were highly variable across the Nation and generally light. Many sections of the Desert Southwest received some much needed precipitation last week including: Flagstaff, Arizona, 1.59 inches, Tuscon, Arizona, 1.97 inches. Parts of Minnesota and North Dakota received some heavy rains with locally heavy showers scattered throughout the Southeast and New England areas. The central Plains recorded little or no precipitation for the week except in the northwest corner where Goodland got 0.43 inch. Monday, a cold front triggered some scattered thundershowers from the North Atlantic States through the Ohio Valley to the central Plains. Nearly 1.50 inches of rain fell at Lexington, Kentucky, within only six hours. During the afternoon strong thunderstorms struck the Southern States. Tuesday, a weather system in the northern Rockies caused widely scattered thundershowers into the Plateau and Rockies. A few thunderstorms developed ahead of the system in the upper Plains and Mississippi Valley and along the eastern slopes of the central Rockies. Wednesday, a large High pressure system centered in the Northeast extending southwest into Texas. Meanwhile, an extensive area of scattered thundershower activity paralleled the gulf coast from near Houston, Texas, eastward across southern Florida. Thursday, thundershowers developed through the Gulf Coast States and in the Rocky Mountains extending into the Pacific Northwest and Plateau region. Other thundershowers were scattered through New England, the Appalachians, and southern Wisconsin. Thunderstorms dumped 3 iches of rain on Hill City, South Dakota, causing some minor street flooding. Friday, a severe storm struck Grand Junction, Colorado, with 72 m.p.h. winds causing damage to aircraft, trailers, and Weather of the week continued on page 592.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - ILLINOIS - Moth flights heavy in north-central and northern areas. Moths will lay eggs in grassy areas in cornfields as well as grassy hay fields and pastures.(Ill. Ins. Rpt.). INDIANA - Larvae caused economic damage in one Owen County cornfield double-cropped on wheat stubble. (Matthew). NEW YORK - Larval infested plants in 40-acre field of 2-foot high, no-till field corn averaged 21 per 50 feet of row at Randall Crossing on State Highway 14 in Yates County. Infestation based on stratified random sample of 16 units of 50 row feet each. (Sliwa). Larvae averaged 6 per plant July 15, with 16 percent defoliation and 5 percent of plants killed in 5-acre, no-till field of 30-inch corn near Mt. Morris, Livingston County. (Kanouse).

ASTER LEAFHOPPER (Macrosteles fascifrons) - NORTH DAKOTA - Adults and immatures evident in all wheat and barley in Cass, Traill, Grand Forks, and Richland Counties. Counts in wheat ranged 40-1,000 (average 302) per 100 sweeps. Counts in barley ranged up to 1,000 (average 396) per 100 sweeps. Flax in Cass County had 150 per 100 sweeps while Richland and Ransom County flax had up to 56 per 100 sweeps. Heaviest populations in wheat and barley found in late-seeded fields in southern end of Red River Valley. (Brandvik, Kaatz). WISCONSIN - Requires continual observation with its infection varying between 6-7 percent up to 10-12 percent; both levels considered very heavy for time of year. This species continues to pick up inoculum from infected weeds around and near host crop requiring weed clearing in and up to 200 feet around crop to be protected. Up to 40 percent of carrot plants infected in one northern Columbia County field. Populations in potatoes and beans usually less than 5 per 25 sweeps. (Wis. Ins. Sur.). MICHIGAN - Growers of lettuce, celery, onions, and carrots should apply controls. Recent storm fronts most certainly carried pest into State. (Cress).

CORN EARWORM (Heliothis zea) - CALIFORNIA - Larvae noted in corn plantings at Westmoreland, Imperial County. (Cal. Coop. Rpt.). IDAHO - First larvae of season taken July 10 at Parma, Canyon County, on corn which silked June 19. First specimens on silking corn found June 2 in 1973. (Scott). UTAH - Moths increased in light traps at Logan, Cache County; some taken in light traps at Salt Lake City, Salt Lake County. Larvae light in Weber County corn. (Knowlton et al.). KANSAS - Larvae, 1-3 per ear (all sizes), infested 80 percent of corn ears in mid to late-silk stage in Coffey County. (Bell). ARKANSAS - Absent to extremely light in heads of grain sorghum in northeast area. (Boyer). MISSISSIPPI - Larvae averaged 1.2 per ear on corn grown for grain in Grenada, Yalobusha, and Noxubee Counties. (Robinson).

CORN LEAF APHID (Rhopalosiphum maidis) - UTAH - Infested several barley fields in Juab County, especially west of Nephi. (Jones). NEW MEXICO - Caused problems on sorghum plantings in Deming area, Luna County. Colonies (1-3 per plant) noted along with few colonies of Schizaphis graminum (greenbug). (N.M. Coop. Rpt.). TEXAS - Grain sorghum in Rolling Plains area under heavy stress due to lack of moisture. R. maidis light in whorls of grain sorghum in Knox County. Populations peaked in most southern fields in boot stage in High Plains area. Populations in many fields very heavy. Some populations

heavy enough to cause dessication of leaf tips and margins but no economic damage anticipated. R. maidis heavy in most fields in Hale County; some leaf discoloration observed. In Reeves and Pecos Counties, infestations light to moderate in isolated fields of grain and forage sorghum. Counts of Schizaphis graminum (greenbug) ranged 3-50 per colony with 2-8 colonies per plant on 20 percent of plants in one field examined. (Boring, Neeb). OKLAHOMA - Corn leaf aphid heavy in some scattered Texas County sorghum fields but populations beginning to decrease as fields begin to head. Light in Payne and McCurtain Counties. (Okla. Coop. Sur.). KANSAS - Moderate to heavy in preboot sorghum surveyed in east-central, south-central, and occasionally in some fields in northwest and west-central districts. Scattered plants in these fields had whorl infestations heavy enough to cause yellowing and some reddening of upper leaves. Lady beetles of various species generally found in large numbers in fields with heavy R. maidis infestations. Heavy populations found in scattered heads in one heavily infested field surveyed in Morton County. (Bell). NORTH DAKOTA - Infested 50 percent of barley fields in Cass, Traill, and Grand Forks Counties; ranged up to 150 (average 41) per 100 sweeps. Heaviest counts found in late-seeded barley in Grand Forks County. (Brandvik). WISCONSIN - Development of corn leaf aphid very rapid in central sands area and some heavily infested cornfields noted. Colonies of 300-400 per tassel noted on up to 50 percent of plants. These counts very heavy and threatening; growers should carefully watch fields. Populations in most southern counties far lighter than in central area. (Wis. Ins. Sur.). IOWA - Averaged about 5 per plant on commercial seed corn fields in eastern area. (DeWitt). ILLINOIS Increased on corn; not yet at economic levels in fields checked but near these levels in few fields. Some predator species present and feeding on aphids. Corn under stress due to dry conditions which will accentuate aphid damage. Fields should be checked for increases, especially fields coming into tassel. R. maidis heavy in some southern area grain sorghum. (Ill. Ins. Rpt.). INDIANA - Heavy in Jay County grain sorghum field. (Matthew). Extremely light in corn grown for grain in southern districts. (Meyer). OHIO Corn leaf aphid continued to increase on field corn statewide. Heaviest infestation in southwest and south-central areas found in 20-acre Warren County field; 70 percent of plants in late-whorl stage had counts of 3-10 per tassel (light) to 200-300+ per tassel (moderate). Predator adults, Nabis spp. (damsel bugs) and Coleomegilla maculata (a lady beetle), fed on aphids on exposed tassels. (Fox). FLORIDA - Adults and nymphs of R. maidis generally infested stems and leaves on 75 percent of 100 sorghum plants examined on farm at Greenwood, Jackson County. (Fla. Coop. Sur.).

GREENBUG (Schizaphis graminum) - ARIZONA - Averaged 10 per 60 row feet of sorghum at Safford, Graham County. Colonies increasing on 4 to 6-inch milo at Duncan, Greenlee County. (Ariz. Coop. Sur.). TEXAS - Situation variable from county to county across South Plains near Lubbock. Generally, populations appeared heavier in northern area including Hale, Lamb, Bailey, Swisher, Castro, and Deaf Smith Counties where appreciable rain did not occur earlier in year. In southern areas of Lubbock, Crosby, and Hockley Counties pest difficult to find. In sorghum pest management program area of Hale, Swisher, and Castro Counties S. graminum increased dramatically. Some populations showed up to 10-fold increase in 7 days. Up to 2,000 per plant in some small spots, treatment recommended.

In fields considered normal for area up to 100 per plant often found. Damage to grain sorghum in Hale County increased to levels of 2,000 aphids per plant in untreated fields. Following treatment some populations increased to 800 per plant. Control applications gave spotty control. No treatments have given complete control. (Boring et al.). OKLAHOMA - Greenbug ranged 2,000-5,000 per leaf on sorghum in Caddo and Washita Counties. Building up in Texas County but most infestations still light with populations seldom exceeding 200 per plant. Light in Wagoner County. (Okla. Coop. Sur.). ARKANSAS - Survey negative in all sorghum checked in northeast area except one Craighead County field. This field had occasional colony; field in late-bloom stage. (Boyer). KANSAS - Greenbug activity in Nemaha County sorghum increased significantly, control by parasitic wasps much lighter than expected. S. graminum also increasing rapidly in many fields in Haskell, Meade, and Stevens Counties with some treating in Stevens County. One field in boot stage in Morton County with about 1,500 S. graminum per plant and with one dead lower leaf and second badly damaged. In 3 to 24-inch high sorghum in west-central and northwest districts, S. graminum normally ranged 25-100 per plant with few predators and no parasitism. Infestations in south-central district generally light except for some threatening infestations in Kiowa County. Fields surveyed in east-central district, including Wabaunsee, Osage, Coffey, Lyon, and Morris Counties, generally had light and usually declining infestations not only due to heavy predation by various lady beetle species and some parasitic wasp activity but also due to drought conditions in area causing firing of plants. Past observations show greenbug does not increase rapidly on drought stressed plants. One Osage County field noted in which 6-inch sorghum had about 200 greenbugs per plant, many of which were winged. Little damage obvious at time of scouting but expected to be very obvious soon. Few predators and no parasitic wasps noted in this particular field. Two fields in Osborne and Smith Counties reported treated. (Bell). NEBRASKA - Greenbug increasing rapidly on sorghum as drought continues. Averaged 67.7 per plant in 39 sorghum fields surveyed in Clay County July 12 with 79.9 percent of plants infested; ranged 0-920. Averaged 212.5 per plant in same county July 17 with 93.8 percent of plants infested; ranged 0-3,100. Parasitism by Lysiphebus sp. (a braconid wasp) still light with less than one percent of S. graminum parasitized. (Gary, Keith). NORTH DAKOTA - Infestations widespread in wheat in Cass, Traill, Richland, and Grand Forks Counties. Ranged up to 600 (average 137) per 100 sweeps in wheat. Infested about 90 percent of fields checked. Some localized damaged spots evident in late-seeded wheat in parts of Traill and Grand Forks Counties. About 57 percent of barley surveyed in these counties infested. Ranged up to 150 (average 41) per 100 sweeps. In Richland County, wheat had up to 7 per head. Crop development ranges from tillering to soft dough stages. (Brandvik, Kaatz).

POTATO LEAFHOPPER (Empoasca fabae) - WISCONSIN - Less than 5 per 25 sweeps in snap and lima beans. Generally 4-5 per sweep in potatoes except for field in Racine County with less than one per sweep. Hot, dry conditions expected for next 30 days. This is conductive for leafhoppers to become more serious than at present. Populations in untreated potatoes heavy. Noted at less than one per sweep in soybeans in southern third of State. Light in alfalfa, averaged one sweep and rarely 5+ per sweep. (Wis. Ins. Sur.).

MICHIGAN - Common in Bay County dry beans; may soon be threat. (Ruppel). INDIANA - Evident on okra, string beans, and lima beans in gardens in La Porte and St. Joseph Counties. (Sillings). MISSOURI - Light to moderate in south-central area alfalfa. Ranged 15-300 per 10 sweeps. (Munson).

SPOTTED ALFALFA APHID (Therioaphis maculata) - MISSOURI - Light in south-central area alfalfa. Ranged 0-15 per 10 sweeps. (Munson). OKLAHOMA - Very heavy populations reported in recently cut Noble County alfalfa field. (Okla. Coop. Sur.).

TOBACCO HORNWORM (Manduca sexta) - KENTUCKY - This species and M. quinquemaculata (tomato hornworm) damaged tobacco in central and southern areas. About 6-8 percent of plants in Bullitt County showed some damage. Damaged 2-4 percent of tobacco plants in Franklin County. Damage to tobacco seems lighter this year than at same time in 1973. (Barnett). INDIANA - Nearly full-grown larvae of M. sexta noted at about 5 per 20 row feet in commerical tomatoes in La Porte County field. (Sillings).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - NORTH DAKOTA - Leaf feeding by second-instar larvae noted on 50 percent of corn plants at 5-foot extended leaf height in Cass County. (Frye). NEBRASKA - First-brood infestation light on most corn in State. Infested plants averaged 1.02 percent in 267 Clay County fields. (Gary, Keith). MISSOURI - Adult emergence underway in southeast area; probably peaked this period. (Houser). ILLINOIS - First-generation larvae light in southern area corn; heavier in central and northern areas where few "hot spots" found. Emergence of second-generation moths well underway in southern area, egg laying observed. Moth emergence about 50 percent as far north as U.S. Highway 50. Pupatio of first-generation larvae rapid in central area, just beginning in northern area. (Ill. Ins. Rpt.). INDIANA - Most larvae pupated in southwest area, with occasional adult emergence noted. One summer-generation male taken in Tippecanoe County light trap. (Barlow).

WISCONSIN - European corn borer development in corn rapid, some very heavy larval infestations evident in some areas. Infested plants ranged 30-60 percent in many central area fields from Columbia County northward through Marquette, Waushara, and Portage Counties. Some sweet corn canners treating. Populations much lighter in most southern and southwest districts, 25-30 percent infested plants in few fields. Cornstalk dissections in central, south-central, southeast, and southwest districts showed larvae in every stage of development. Third-instars predominant in most fields, variation noted from field to field with older fields having more advanced larvae. Most late cornfields, especiall those less than "knee high," virtually free. Tunneling into stalks began, treatments will become progressively less effective until second larval generation appears. Some pupae noted in advanced fiel near Mozomanie, Dane County; first adults of second flight expected in light traps about July 25. Larval development in Lake Michigan area and inland up to 40 miles in east-central area behind that in other southern and central counties. All larvae observed in first

or second instar; steady adult activity reported by canners. Present status indicates very great potential for severe O. nubilalis situation to develop when second larval generation appears. Vast acreage of corn behind normal development and will be highly attractive to borers. Present populations indicate very high number of adults will soon appear and begin ovipositing on susceptible plants. Only radical change in weather to wet, cold conditions likely to alter forecast. (Wis. Ins. Sur.).

MINNESOTA - Few European corn borer larvae found in corn but egg mass counts light. Only 10 percent of fields surveyed showed egg masses; 36 percent of southwest district and 50 percent of central district fields infested. First generation will apparently cause little concern to corn growers. (Minn. Pest Rpt.). MICHIGAN - Third-instar larvae heavy in about 25 percent of tassels in field of sweet corn in Ionia County; also infested some ears. (Cress).

NEW YORK - European corn borer larvae fed in whorls and stalks of 50 percent of plants in 6-foot tall, 3-acre cornfield on Spring Lake Road and 10 percent of plants in 7-foot tall, 20-acre cornfield on Fuller Road in Cayuga County July 18. (Sliwa). First-brood larvae infested 70 percent of plants in late-whorl stage in 25-acre field of sweet corn on East Henrietta Road July 16 in Monroe County. (Davis). SOUTH CAROLINA - Collected from corn in Barnwell County by J.B. Griffith. Determined by C.A. Thomas. This is a new county record. (McCaskill).

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Heavy infestation reported in Washita County sorghum terminals; ranged light to heavy in Caddo County. Light in Greer County. (Okla. Coop. Sur.). ARKANSAS - Extremely light in whorls of grain sorghum in northeast area. (Boyer). ILLINOIS - Larvae detected in late corn. Infestation ranged 5-10 percent in 20-inch corn in St. Clair County. (Ill. Ins. Rpt.).

CORN ROOTWORMS (Diabrotica spp.) - KANSAS - Adults averaged 1-3 per plant in early tassel to early silk corn in Lyon County; 1.5 per plant in early silk corn in Greenwood County; ranged 0-12 per plant in mid to late silk corn in Coffey County. Adults in corn (4 feet tall to full silk) in west-central and northwest districts found in all fields surveyed but averaged less than one per plant. Some heavy infestations (up to 20 per plant) reported in early silk corn in Phillips and Smith Counties in Kerwin Reservoir irrigation district. Adult infestations generally light in corn in south-central and southwest districts. (Bell). IOWA - Damaged corn in Cherokee, Johnson, and Madison Counties. D. virgifera noted at one or less per plant in Story and Woodbury County fields. Drought stricken plants expected to sustain increased damage by silk cutting adults. (DeWitt).

ILLINOIS - Diabrotica spp. larval damage may be more pronounced than normal as corn under stress due to dry conditions. Damaged roots will not regenerate as rapidly under these conditions. (Ill. Ins. Rpt.). SOUTH DAKOTA - Adult emergence first noted in Beresford area of Union and Lincoln Counties July 10. Most pupation began week ending July 19; most adults will appear week ending July 26. Hot, dry weather caused some mortality of late larvae in soil. (Walgenbach). MINNESOTA - Infestations light in corn, ranged 2-8 percent. Larvae mostly third instar, few in prepupal stage.

First adults noted in west-central and southwest districts; D. virgifera (western corn rootworm) adult seen in west-central area, 2 adults in southwest area. No lodging yet observed. (Minn. Pest Rpt.). WISCONSIN - Adults of Diabrotica longicornis (northern corn rootworm) and D. virgifera (western corn rootworm) began emergence in advanced southern areas. D. longicornis averaged 2 per silk in advanced Rock County field of sweet corn. Some D. undecimpunctata howardi (southern corn rootworm) adults noted in some cornfields. Some lodging noted in one southern Dane County field. (Wis. Ins. Sur.).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - IDAHO - Ranged 30-40 per corn plant in Pleasant View area of Oneida County July 18, 1974. This is a new county record. (Sandvol, Jessen). UTAH - Damaged several Weber County cornfields. (Rogers). COLORADO - Adult emergence noted in Kit Carson County corn. (Hantsbarger). OKLAHOMA - Adults ranged up to 5 per plant in some isolated Texas County cornfields with silk damage reported. Some fields treated. (Okla. Coop. Sur.). MISSOURI - Adults collected in Maries County. This is a new county record. (Munson). NEBRASKA - Emergence rapid with scattered reports in eastern half of State of treatment of corn to prevent silk clipping. Beetles averaged 0.86 per silk mass in 222 Clay County cornfields. (Gary, Keith). MICHIGAN - Adults first found in corn July 16 near Albion, Calhoun County, 7-10 days earlier than expected. Present on leaves and in whorls of corn not yet tasseling; numerous enough to indicate emergence probably began few days earlier. (Ruppel et al.).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Heavy in late-planted and late-blooming varieties of grain sorghum in most central area counties. Heavy in many north-central counties. (Hoelscher, Turney). During past 21 days, 6,600 Johnson grass heads collected during survey of 11 counties near Lubbock. Midge emergence noted from samples collected in 5 counties. Emergence not unusually heavy for time of year. (McIntyre). ARKANSAS - Survey negative in blooming sorghum in Clay, Craighead, and Randolph Counties. Most early sorghum about through blooming and safe from infestations. Due to adverse planting conditions, considerable acreage of sorghum in northeast area about "knee high." This late sorghum will have to be watched for all insects. (Boyer). TENNESSEE - Found on heads of Johnson grass in western area; pest could again become problem on late-planted milo. (Locke).

BANKS GRASS MITE (Oligonychus pratensis) - OKLAHOMA - Damage heavy in many untreated Texas County cornfields. In many fields bottom 2 leaves severely damaged and next 3 or 4 leaves visibly damaged. In some fields up to 9 or 10 leaves infested. Some fields chemically treated and reasonably good control reported in most cases. Infestations on sorghum generally light but populations increasing rapidly. (Okla. Coop. Sur.).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - NORTH CAROLINA - Dry, hot weather in northeastern Coastal Plain conducive to buildup on corn. Economic injury observed in 35 fields of about 1,000 acres, 30 fields in northern Chowan County, 3 fields in western Hertford County, and 2 fields eastern Northampton County. Found in about 50 percent of 150 fields examined. All corn observed with easily detectable infestations on light soils, drought stressed, and following peanuts in 1973. Migration from "fire up" corn

ccurring on melons, sweetpotatoes, and peanuts. As T. urticae will ttack all agricultural crops, any crop near infested fields should e watched closely. (Hunt, Van Duyn).

MALL GRAINS

NGLISH GRAIN APHID (Macrosiphum avenae) - NORTH DAKOTA - Infestaions evident in 90 percent of wheatfields in Cass, Traill, Grand orks, and Richland Counties. Counts ranged up to 300 (average 97) er 100 sweeps. Appeared on heads of wheat in Richland and Cass ounties. In barley, 50 percent of fields infested with up to 150 average 38) per 100 sweeps. (Brandvik, Kaatz). IDAHO - Populations enerally heavy, ranged from near zero to several hundred per heat head in several Lewis County fields. (Dephart, Homan). anged 25-30 per head in Twin Falls County. (Youtz).

N APHID (Rhopalosiphum fitchii) - NORTH DAKOTA - Colonies evident n 639 wheatfields in Cass, Traill, Grand Forks, and Richland ounties. Up to 400 (average 100) per 100 sweeps in late-seeded heatfields. In barley, 21 percent of fields with up to 100 average 38) per 100 sweeps. Heaviest in southern Cass and northern ichland Counties. (Brandvik).

ARLEY THRIPS (Limothrips denticornis) - NORTH DAKOTA - Adults and oung infested 100 percent of small grain fields in Cass, Traill, nd Grand Forks Counties. Infestation in leaf sheaths ranged up o 60 (average 10) per plant. Heaviest populations found in Grand orks and Traill Counties where infestation in several fields anged 21-26 thrips per plant. Heaviest counts found in early eeded fields. (Brandvik).

URF, PASTURES, RANGELAND

ALL ARMYWORM (Spodoptera frugiperda) - ARKANSAS - First infestation f season in pastures noted in Lafayette County. Local agriculturists nterested in possible development of this species in pastures. At east 250,000 acres of pasture treated in 1973 with some acreages eeding treatment for 3 generations. Treatments were applied in uly, August, and September. (Boyer).

WOLINED SPITTLEBUG (Prosapia bicincta) - MISSISSIPPI - Adults and mmatures averaged 3 per 4 square feet sampled in Monroe and hickasaw County pastures. Grasses in sample mostly fescue and allis grass. (Robinson).

RASSHOPPERS - KENTUCKY - Adults and nymphs of various species veraged 140 per 100 sweeps in Bullitt County at one location and 0 per 100 sweeps at second location. Averaged 160 per 100 sweeps. amples taken in roadside grasses composed mostly of fescue. Barnett).

DRAGE LEGUMES

EA APHID (Acyrthosiphon pisum) - NEVADA - Economic populations equired treatments of alfalfa hay in Mason and Smith Valleys, yon County. (Hilbig). Occasional specimens present in alfalfa ay in Fallon and Stillwater area, Churchill County; ranged 10-50 er sweep in Sheckler District. (Bechtel). COLORADO - Heavy on econd-cutting alfalfa in Mesa County, ranged 20-200 per sweep. Bulla). NORTH DAKOTA - Heavy in 75 percent of fields in Cass,

Traill, and Grand Forks Counties. Ranged 150-5,000 (average 2,500) per 100 sweeps. Second-crop alfalfa retarded due to infestations and lack of moisture. (Brandvik). MINNESOTA - Counts remained stable on alfalfa in most districts. Some very heavy increases observed in central and southwest districts. After several weeks of light populations, several Scott County alfalfa fields with uncountable populations; one-quarter to one-third cupful per 10 sweeps. Counts similar in southwest district. Many lady beetle larvae present, but ineffective. Alfalfa only about half as high as should be; difficult to assess damage by A. pisum and reduction of plant size due to drought. Treatment advisable on younger alfalfa but these fields ready for second cutting. (Minn. Pest Rpt.). FLORIDA - About 2,250 specimens collected in 100 sweeps of blooming alfalfa at Gainesville, Alachua County. (Fla. Coop. Sur.).

EUROPEAN ALFALFA BEETLE (Subcoccinella vigintiquatuorpunctata) - MARYLAND - Adults collected on bouncing-bet (Saponaria officinalis) 3 miles west of Hagerstown on State Highway 68 in Washington County July 18, 1974, by J.H. Dillier. Determined by R.D. Gordon. This is a new State record. (PPQ). PENNSYLVANIA - Collected on bouncing-bet (Saponaria officinalis) near Brickerville, Lancaster County, and at northwestern city limit of Philadelphia, Philadelphia County, July 10, 1974. These are new county records. Adults observed damaging tall oatgrass (Arrhenatherum elatius) growing near infested bouncing-bet near Newmanstown and at Schaefferstown, Lebanon County. (Stimmel, Wheeler). Adults and damage to bouncing-bet found July 12 near Harrisburg and July 14 at Hershey, Dauphin County. (Henry, Wheeler). Adults collected on bouncing-bet along railroad about 2 miles north of Chambersburg, Franklin County, July 16. This is a new county record. (Stinner, Wheeler).

TARNISHED PLANT BUG (Lygus lineolaris) - FLORIDA - Population increased considerably in recent weeks. About 400 nymphs and adults collected in 100 sweeps of blooming alfalfa, nymphs predominating, at Gainesville, Alachua County. (Fla. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - NEVADA - Increased abruptly in alfalfa seed fields in Lovelock area, Pershing County. Adults ranged 4-5 and nymphs 8-10 per sweep. (Arnett).

ALFALFA BLOTCH LEAFMINER (Agromyza frontella) - NEW YORK - Noted near Canton and Winthrop, St. Lawrence County, and near Malone, Franklin County, July 3, 1974, by G.G. Gyrisco and R.G. Van Driesche during release of Microctonus aethiops (a braconid wasp) for control of Hypera postica (alfalfa weevil). In all instances, damage to alfalfa by A. frontella noticeable and much heavier than damage by H. postica. St. Lawrence and Franklin Counties are new county records for A. frontella. (Gyrisco, Van Driesche).

GRASSHOPPERS - MINNESOTA - Light rainfall and continued warm weather ideal for nymphal survival. Few economic populations found in fields and field margins. Averaged 8 per square yard in Wright County alfalfa field; 35 percent first and second-instar nymphs of Melanoplus femurrubrum, 25 percent third-instar M. differentialis, 40 percent third-instar M. bivittatus. Averaged 20 nymphs per square yard in McLeod County alfalfa field; 75 percent M. bivittatus, 15 percent M. differentialis, 10 percent M. femurrubrum. Economic in margins of Yellow Medicine County fields; ranged 30-35 per square yard. Little damage noted in Wilkin County, but some spraying done; populations noneconomic. (Minn. Pest Rpt.).

TWOSPOTTED SPIDER MITE (Tetrancyhus urticae) - NEBRASKA - Heavily damaged Johnson County sorghum field. Mites killed several leaves per plant and generally present over entire plants. (Koinzan).

SOYBEANS

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Second-generation larvae increasing slowly. First-generation pupation about 60 percent complete in Wicomico, Dorchester, Talbot, Charles, Prince Georges, Anne Arundel, and Carolina Counties. Adult emergence variable, generally 10-20 percent. Some egg laying evident in all areas; peak activity not expected for 10-14 days on soybeans. (U. Md., Ent. Dept.). VIRGINIA - Increased rapidly during recent weeks in Accomac and Northampton Counties; soybean injury still light. Untreated snap beans at the Painter Station completely defoliated, numerous calls from home gardeners received. (Hofmaster).

A JAPANESE WEEVIL (Calomycterus setarius) - IOWA - Fed on border rows of soybeans in Dallas County field week ending July 12, 1974. This is a new county record. (DeWitt).

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Caused heavy damage to some fields of seedling soybeans in McCurtain County; treatments applied. (Okla. Coop. Sur.). MISSOURI - Light on soybeans in central area. Averaged 3 per sweep on early planted soybeans and less than one per sweep on late-planted soybeans. (Ignoffo). OHIO - Complexes of lepidopterous pests, including P. scabra, developing in some Perry and Fairfield County fields, but damage and population levels not yet economically significant. During late July and early August 1973, many lepidopterous species, with P. scabra predominant, infested soybeans statewide. An unprecidented "sudden" appearance of these pests produced heaviest populations in 13 years and caused severe defoliation in some fields Occurrence also prompted unnecessary emergency spraying. (Fox).

FALL ARMYWORM (Spodoptera frugiperda) - ARKANSAS - Treatment recommended for 160 acres of Lincoln County soybeans. Up to 23 larvae noted per row foot. Infestation in late soybeans following wheat. (Boyer).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - SOUTH CAROLINA - Collected from soybeans in Lexington County by B. Jones. Determined by C.A. Thomas. This is a new county record. (McCaskill).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Moderate to heavy populations caused some lodging of soybeans in Webbers Falls area of Muskogee County. Light in McCurtain County. (Okla. Coop. Sur.).

PEANUTS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - OKLAHOMA - Averaged 30 percent of plants infested in one Hughes County peanut field; infestations light in other fields. (Okla. Coop. Sur.). SOUTH CAROLINA - Collected from peanuts in Clarendon County by R.D. McNair. Determined by C.A. Thomas. This is a new county record. (McCaskill).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Remained stable at heavy levels in south-central area. Populations significantly reduced where treatments made for control of Heliothis spp. (bollworms) larvae. Many problems noted in some parts of central area; one Bell County field noted with heavy damage. Most fields in Holland and Hartlet communities of Bell County received only minimal damage during growing season. Many problems noted in Rosebud area of Falls County in central area; punctured square counts very heavy in some fields. Punctured square counts in most north-central counties ranged 20-100 percent in fields examined. Reports from area indicate weevil populations heaviest seen since early 1960's. Overwintered weevils continued light in some fields in Wilbarger County. First-generation adults beginning to emerge from squares in older fields. In one Knox County field, 21 percent of squares damaged. Trap catches in Wilbarger, Baylor, and Knox Counties continued to decline. (Cole).

OKLAHOMA - Boll weevil ranged 0-25 percent in Greer County, 0-18 percent in Jackson County, 0-16 percent in Tillman County, 0-10 percent in Harmon County, 0-5 percent in Kiowa County, and 0-10 percent in Caddo County. Averaged 29 percent in one Muskogee County field but ranged 0-11 percent in other fields in Muskogee, Wagoner, and McCurtain Counties. (Okla. Coop. Sur.). MISSISSIPPI - First-generation adult emergence underway statewide. Peak emergence from squares observed July 19-22 in Noxubee and Lowndes Counties. In Yazoo County, on 5,000 acres of 1973 flood area, weevils very hard to find. Punctured squares averaged 2.2 percent in 821 fields in Grenada and Yalobusha Counties, 8 percent in 100 acres in Webster County, 5 percent on 1,000 acres in Noxubee County. (Robinson).

ALABAMA - Boll weevil "hatchout" continued in southern and central area with square infestations ranging 10-90 percent depending on treatment efforts. Most growers into regular season treating north to Jefferson County. (McQueen). TENNESSEE - First generation emerged in early cotton in southern tier of counties of western area. Last-instar larvae and pupae readily found in most fruiting fields. Infestations vary greatly from field to field; 50 percent of fields surveyed in area at or above control levels, punctured squares ranged 2-29 (average 13) percent for all infested fields. Punctured square counts ranged 20-50 percent in McNairy County, 6-15 percent in Henderson County. (Locke, Patrick). Surveys in Franklin and Lincoln Counties indicate first-generation weevils will have begun emerging by July 26, should peak during week ending August 9. Counts ranged 5-35 percent in fields surveyed. (Cagle).

BOLLWORMS (Heliothis spp.) - TENNESSEE - Larvae and eggs averaged 2 per 100 terminals for fields found infested in western area. More larvae rather than eggs currently found in fields surveyed. (Locke). Larvae and eggs ranged 0-3 per 100 terminals in western area. (Cagle). MISSISSIPPI - Eggs increased indicating second generation underway statewide. In Yazoo County, averaged 8 percent; in Grenada and Yalobusha Counties, one percent; Noxubee County,

8 percent on 1,000 acres checked. Larvae less than one percent in most fields. (Robinson). OKLAHOMA - H. zea (bollworm) eggs ranged 0-10 per 100 terminals in fields in Jackson, Kiowa, Tillman, Harmon, and Greer Counties, and up to 30 per 100 terminals in few fields in Jackson County. Larvae per 100 terminals ranged 0-15 and damaged squares 0-21 percent. Eggs, damaged terminals, and damaged squares ranged 1-12 percent in Wagoner, Muskogee, and McCurtain Counties. Light infestations noted in Caddo and Washita Counties. (Okla. Coop. Sur.).

TEXAS - H. zea and H. virescens (tobacco budworm) declining after buildup first week of July. Much damage observed in some fields in Matagorda County northward to Williamson County; some populations ranged up to 100 percent H. virescens. Infestations continued problem in many central area fields, especially in late-planted cotton. H. zea eggs increased in north-central area fields not wilting due to drought conditions. Moths very active late this period. Minor damage observed in most fields. Some damage to larger bolls noted in Rockwall and Collin Counties due to treatment in late June. No small larvae observed in these fields, however. Activity increased rapidly in cotton-producing areas across Trans-Pecos region. Eggs in isolated fields in Pecos Valley ranged 10-60 per 100 plant terminals. Larvae ranged 0-8 per 100 plants in isolated fields across area. H. zea moths easily observed in most fields. (Cole, et al.). NEW MEXICO - Damage continued in Lea County with egg counts of 2-4 per 100 plants in one field. Up to 7 eggs per 100 plants noted in Dona Ana County. (N.M. Coop. Rpt.).

BEET ARMYWORM (Spodoptera exigua) - TENNESSEE - First-instar larvae collected in southern tier of counties in western area, especially in those fields where pigweed abundant. This is unusual for this time of year. (Locke).

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) - OKLAHOMA - Counts per 100 terminals ranged 0-25 in treated fields and 10-60 in untreated fields in Jackson County, 0-16 in Kiowa County, 5-61 in Tillman County, 6-20 in Harmon County, 6-32 in Greer County, up to 52 in Caddo County, and up to 46 in Washita County. Light in Wagoner, Muskogee, and McCurtain Counties. (Okla. Coop. Sur.).

MISCELLANEOUS FIELD CROPS

SUNFLOWER MOTH (Homoeosoma electellum) - SOUTH DAKOTA - Light trap collections in Groton area, Brown County, indicate moths active in sunflower July 9. Growers should watch fields next few weeks to determine if larvae present in heads. Early detection important for effective control. (Walgenbach).

POTATOES, TOMATOES, PEPPERS

MEXICAN BEAN BEETLE (Epilachna varivestis) - INDIANA - Caused economic damage to string and lima beans in LaPorte and St. Joseph Counties. (Sillings). MICHIGAN - Adults present in Bay County field beans; no eggs or larvae seen. (Ruppel).

EUROPEAN CORN BORER (Ostrinia nubilalis) - MASSACHUSETTS - Larvae damaged many potato plants in Hampshire County. Chemical treatments not effective. (Jensen).

GREEN PEACH APHID (Myzus persicae) - OREGON - Infestations light to heavy at Merrill, Klamath Falls area potato fields, treatment began. (Humphrey). Ranged 1-3 per 50 bottom leaves in russet potato fields on Sauvies Island, Multnomah County; Aurora, Marion County; and Scholls, Washington County. Total of 150 acres infested. (Collins). IDAHO - Up to 9 per leaf noted in Canyon County potato fields. Unusually heavy percentage (up to 35 percent) were alates. Presence of newly emerged alates showed some of these developed within fields. (Byrne, Bishop).

HAWAII INSECT REPORT

New State Records - ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus (Quaintance)), a serious pest of citrus in tropical Asia, detected on rose foliage at Honolulu, Oahu. For details see **page 585.** Numerous specimens of an APHID (Acyrthosiphon pelargonii zerozalphum (Knowlton)) found on Erodium cicutarium (heronsbill or alfileria) at Hale Pohaku (9,200 feet elevation) on Mauna Kea, Hawaii Island, by J.W. Beardsley. Determined by L.M. Russell. This aphid occurs in Europe, North America, and South America, and has been recorded on the following plant genera: Pyrus, Geranium, Pelargonium, Malva, Viola, Calceolaria, Justacia, Bellis, Chrysanthemum, and Cineraria. Another subspecies, A. pelargonii pelargonii was recorded in the State in 1948 from grass sweepings at Pohakuloa by F.A. Bianchi. (Mau).

General Vegetables - BEAN FLY (Ophiomyia phaseoli) heavy in 15 small plantings of yardlong beans at Wailuku, Maui; 50-80 percent of petioles infested. Damage moderate to heavy. Also heavy in snap bean and yardlong bean plantings at Kahului. (Miyahira).

Fruits and Nuts - Immatures of CITRUS SWALLOWTAIL (Papilio xuthus) moderate on 12 citrus trees at Kapahulu, Oahu; only light foliar damage observed. Adults numerous. Heavy infestation of FLORIDA RED SCALE (Chrysomphalus aonidum) and PURPLE SCALE (Lepidosaphes beckii) observed on 20+ citrus trees at Wailuku, Maui; 100+ scales per leaf noted on 25 percent of older leaves. (Miyahira, Ah Sam).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - UTAH - Moderate in Juab County apple orchards. (Jones). WASHINGTON - Catches in sex-lure traps in Grant and Adams Counties very light; 11 taken in one trap week ending June 29. Also very light in Chelan and Douglas County area; highest trap count 3 for week ending July 6. (Hunter, Rushmore).

SHOTHOLE BORER (Scolytus rugulosus) - CALIFORNIA - Adults infested plum trees at San Leandro, Alameda County. Borers more common this season than past years. (Cal. Coop. Rpt.).

APPLE APHID (Aphis pomi) - MAINE - Populations still threatening in many apple orchards. Treatment should be applied as necessary and close watch kept until terminal growth ends. (Gall).

APPLE MAGGOT (Rhagoletis pomonella) - MAINE - Adults began emergence from "seeded" cages at Highmoor July 12. General emergence has not begun. Enough adults emerged at some sites to necessitate treatment. Maintenance of protection suggested until threat over in August. Based on earliest emergence date and previous seasonal histories, peak emergence should occur about July 24, 2-3 days earlier than in 1973. (Gall). MICHIGAN - Emergence occurred across fruit belt. Adult trapped July 16 in commercial orchard in Grand Rapids area, several trapped in abandoned apple trees near Hart. Several trapped July 17 in abandoned trees in Onekema area. (Olsen).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - COLORADO - Infestations heavy in many Western Slope fruit orchards; ranged 50-200 per leaf. Visible leaf damage noted where no treatments made. (Bulla).

WALNUT CATERPILLAR (Datana integerrima) - TEXAS - Larvae damaged foliage of pecan trees in Williamson County. Infestations heaviest on pecans near San Gabriel River near Georgetown. (Harris).

BLACKMARGINED APHID (Monellia costalis) - OKLAHOMA - Moderate to heavy on pecan trees in Jackson, Kiowa, Harmon, and Payne Counties. (Okla. Coop. Sur.).

YELLOW PECAN APHIDS (Monellia spp.) - MISSISSIPPI - Moderate to heavy in 2 pecan orchards in Coahoma and Quitman Counties. Honeydew evident. (Robinson). TEXAS - Heavy on pecan trees throughout Hale County. (Latham).

PECAN SPITTLEBUG (Clastoptera achatina) - MISSISSIPPI - Spittle masses noted on pecans in 2 small orchards in Quitman and Coahoma Counties. Infestations ranged moderate to heavy. (Neel).

PECAN LEAFROLL MITE (Eriophyes caryae) - OKLAHOMA - Heavier than normal damage noted on pecan trees in some Payne County areas. (Okla. Coop. Sur.).

SMALL FRUITS

GRAPE ROOT BORER (Vitacea polistiformis) - SOUTH CAROLINA - Survey conducted first of July showed 89 percent in larval stage and 11 in pupal stage. Populations ranged about same as 1973. Adults not expected to emerge any earlier than normal and mounding will probably not be necessary before first of August. Borers hard to find where mounding conduced in previous years. (Pollet).

FOREST AND SHADE TREES

SPRUCE BUDWORM (Choristoneua fumiferana) - MICHIGAN - Very heavy moth flight occurred over central portion of eastern Lower Peninsula July 14-16. Believed to have been blown in from northwest by severe storm. Moths expected to die within 3-5 days after laying eggs on fir, spruce, and other conifers. Extent of damage to hosts by larvae unpredictable, but situation to be monitored closely. Larvae cannot be controlled until June 1975 if they become problem. (Wallner). OHIO - Moths very heavy in blacklight traps in vicinity of Wooster, Wayne County. Trap catches ranged 1,845 to 2,062 July 15; 349 to 526 July 16; 1,829 to 4,339 July 17; and 1,414 to 1,650 July 18. Moths believed to have been blown into State by severe thunderstorm which passed through 15,000-acre stand of conifers to northwest of State July 13. This stand heavily infested with this species earlier in season. Probably this same storm struck northwestern Ohio July 14. Unusually heavy moth populations prompted numerous calls to county agents in Ashtabula, Lake, and Cuyahoga Counties. Light numbers detected on Franklin County dwellings and in Hardin County soybeans. Population estimates based on Wayne County light trap catches suggested about 55 moths per acre. Moth population in Wayne County estimated at about 40 million, that in northern area about 6 billion moths. Moths now ovipositing. However, impossible to predict possible economic impact as no similar situation has occurred in State. Christmas tree growers, nurserymen, foresters, and homeowners will be alerted if situation warrants. (Rings, Stairs). NEW YORK - Hundreds of moths observed on buildings, motor vehicles, trees, and in flight throughout State. Documented reports received from Columbia, Schenectady, Montgomery, Oneida, Madison, Jefferson, St. Lawrence, Cayuga, Tompkins, Schuyler, Steuben, Livingston, and Wyoming Counties. (Sliwa et al.).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - SOUTH CAROLINA Collected from pines in Colleton County by J.D. Walters. Determined by D.K. Pollet. This is a new county record. (McCaskill).

ELM LEAF BEETLE (Pyrrhalta luteola) - MICHIGAN - Larvae heavy and skeletonized elm leaves in many central area locations. Extensive browning evident. (Wallner). KENTUCKY - Partially defoliated elms, especially Chinese elms, in Fayette County and surrounding counties. (Barnett).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - MISSOURI - Heavy throughout east-central and south-central areas. (Kirby).

OAK SKELETONIZER (Bucculatrix ainsliella) - MICHIGAN - Severe leaf skeletonizing of oak evident in many areas, particularly on mature trees. Control at this time questionable. (Wallner).

A PSYLLID (Psylla celtidisvesicula) - WEST VIRGINIA - Adults observed on Celtis sp. (hackberry) in St. Albans, Kanawha County, October 15, 1968. Specimens collected by T.J. Henry and A.G. Wheeler. Determined by L.M. Russell. This is a new State record. (Kim).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 99 cases reported from continental U.S. during period June 30-July 6 as follows: Texas 91, Arizona 7, California 1. Total of 89 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 186,711,600 as follows: Texas 172,827,600; New Mexico 360,000; Arizona 14,994,000; California 1,530,000. Total of 48,514,000 sterile flies released in Mexico. (Anim. Health).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Still heavy in Monroe, Lee, Chickasaw, and Pontotoc Counties, ranged up to 40 per face. Adults reported for first time in Winston, Grenada, Tallahatchie, and Union Counties; up to 10 per face observed. Species has extended known area of infestation in 1973 by 25-50 miles. Now found in foothills along the Delta in Grenada and Tallahatchie Counties. If species establishes in the Delta counties, it will flourish under these climatic conditions. (Robinson). TENNESSEE - Counts ranged 5-15 per head on cattle checked in Giles County. (Watson). None detected on cattle checked in Madison and Henderson Counties. (Turpen). KENTUCKY - Adults averaged 26.1 per animal in Shelby County, 25.0 in Fayette County, and 22.6 in Franklin County. (Barnett, Herald). INDIANA - Adults averaged 17.5 per face on 80 untreated cattle on Grant County experimental farm. (Dobson). IOWA - Adults increased, ranged 0-20 (average 6) per head on untreated Story County herds. (DeWitt). MARYLAND - Counts on beef and dairy cattle variable, generally 25-80 per head in Frederick, Baltimore, and Howard Counties. Counts lighter on dairy cattle due to spray programs. These levels considered annoying for cattle and expected to increase next 30 days. (U. Md., Ent. Dept.).

HORN FLY (Haematobia irritans) - MISSISSIPPI - Ranged 1,500-2,000 per head on beef and dairy cattle in Tallahatchie, Grenada, Webster, and Yalobusha Counties. (Robinson). TENNESSEE - Ranged as follows per head of cattle by county: Giles 50-100, Madison 25-75, Henderson 10-50. (Watson, Turpen). KENTUCKY - Adults ranged 400-500 per animal in Fayette County and averaged 26.1 in Shelby County. (Barnett, Herald). INDIANA - Adults averaged 1.4 per side on 80 untreated cattle on Grant County experimental farm. (Dobson). IOWA - Adults continue to increase on Story County herds. Ranged 50-150 (average 92) on treated herd and ranged 30-140 (average 75) on untreated herd. (DeWitt). OKLAHOMA - Averaged 150 per head on cows and 1,200 per head on bulls in Payne County. Ranged 50-150 per head on cows in Cherokee, Wagoner, Muskogee, and McCurtain Counties. (Okla. Coop. Sur.).

HOUSE FLY (Musca domestica) - MISSISSIPPI - Larvae averaged 20 per 8-square-inch sample of manure 1.5 inches deep under caged layers in Pontotoc County. (Combs).

MOSQUITOES - OHIO - In Tuscarawas County, 20 miniature light traps operated July 11-12 captured 1,478 mosquitoes, primarily Aedes vexans, A. trivittatus, A. sticticus, some A. sollicitans, Anopheles punctipennis, and Culex pipiens. In Columbus, Franklin County, 4 traps operated July 17-19 captured 134 adults, primarily Aedes vexans and C. pipiens. (Ohio Dept. Health). MINNESOTA - Light trap collections in Metropolitan Mosquito Control District for period July 9-13 showed Aedes vexans predominant (81 percent of females collected): Coquillettidia perturbans comprised 16 percent of total. A. vexans declined in daytime bite collections. A. trivittatus and A. stimulans also taken. A. vexans accounted for 50 percent of evening bite collections, C. perturbans 14 percent. (Minn. Pest Rpt.). UTAH - Mosquitoes annoying in Beaver area of Beaver County and in several Cache County areas. Severe problem in much of Rich County. (Esplin, Knowlton).

TABANID FLIES (Tabanus spp.) - OKLAHOMA - Heavy on cattle checked in Seminole County, ranged up to 6 per head on bulls. (Okla. Coop. Sur.). TENNESSEE - Populations of various species becoming very heavy on livestock in western area. (Locke).

A SOLDIER FLY (Hermetia illucens) - MISSISSIPPI - Larvae averaged 30 per 8-square-inch of manure 1.5 inches deep under caged layers in Pontotoc County. (Combs).

A TEPHRITID FLY (Urophora affinis) - WASHINGTON - Released in Kittitas, Stevens, and Spokane Counties past 3 weeks for control of knapweed. (Robocker). This species forms galls in flowers of Centaurea spp. U. affinis is distributed from eastern Europe to Iran. (PPQ).

TICKS - TENNESSEE - Populations of several species continued to be very heavy over western area. (Locke, Patrick). CALIFORNIA - Nymph of Ornithodoros coriaceus (a softbacked tick) collected at Verdi, Nevada County, in deer bed under pine tree in livestock pasture. This is a new county record. Causes painful bite on humans. (Cal. Coop. Rpt.).

HOUSEHOLDS AND STRUCTURES

A POWDER-POST TERMITE (Cryptotermes brevis) - MARYLAND - Specimens of this tropical species found in bookcase in residence in Independent City of Baltimore July 9, 1974, by T. Suman. Determined by D.R. Smith. This is a new State record. Numerous specimens have been found throughout house, including basement. Current tenants have been permanent residents for past 20 years, and have acquired no furniture from Southern States or overseas locations, nor shipments of goods from these areas. Adjoining residence (rowhouse) is rental property and there has been much turnover of tenants during past 10-15 years. This residence occupied by family from tropical area about 8 years ago for undetermined period. C. brevis has been reported from locations in Alabama, Connecticut, Florida, Hawaii, Louisiana, Massachusetts, Mississippi, and North Carolina (CEIR 17(34):795). (PPQ).

ISCELLANEOUS WILD PLANTS

CECIDOMYIID MIDGE (Contarinia acetosellae (Rübsaamen)) - GEORGIA - dults, larvae, and pupae collected from male flowers of Rumex etosella (red sorrel) at Tifton, Tift County, April 2, 1973, by .R. Wiseman. Determined by R.J. Gagne. This is a new United States ecord and first time reported from North America. C. acetosellae s known to occur in Europe. (PPQ).

ELON APHID (Aphis gossypii) - NEW JERSEY - Heavily infested stems f Erigeron canadensis (horseweed) at Cherry Hill, Camden County. ollected June 16, 1974, and determined by M.D. Leonard. This is irst record of A. gossypii on this host in State. (Leonard).

ENEFICIAL INSECTS

CHNEUMON WASPS - INDIANA - Lemophagus curtus collected at Kingsury field insectary in La Porte County July 3, 1974, by J. eresinsky. Determined by P. De Witt. This is first time this arval parasitoid of O. melanopus has been recovered since origilly released in State. OHIO - Diaparsis sp., a larval parasitoid O. melanopus, receovered for first time at field insectary in airfield County by J. Wheeler. Determined by T.L. Burger. (Burger). iaparsis sp. recovered for first time in Guernsey County June 13 J. Wheeler. Determined by P. De Witt. (De Witt). OHIO - An lfalfa field (plant height 12-18 inches) sampled July 4 in Hancock ounty yielded 49 Hypera postica (alfalfa weevil) larvae per 300 weeps. Of these larvae, 37 percent parasitized by B. curculionis. his is a new county record. (Lewis).

EULOPHID WASP (Tetrastichus julis) - NEW YORK - This larval arasitoid of Oulema melanopus (cereal leaf beetle) recovered for irst time in Wyoming County by R. Le Maire. Determined by V. ontgomery. (Burger). OHIO - Recovered for first time in Fairfield ounty June 17 by J. Wheeler. Determined by P. De Witt. (De Witt).

BRACONID WASP (Lysiphlebus testaceipes) - KANSAS - Some greenbug Schizaphis graminum) parasitism by this species reported found about 50 percent of infested sorghum fields scouted in Nemaha ounty. Light parasitism (up to 4 percent) of greenbug noted in early all sorghum fields in several counties of east-central istrict and in some counties in eastern half of south-central istrict (up to 10 percent). (Bell).

ADY BEETLES - KANSAS - Hippodamia convergens (convergent lady eetle) and Scymnus spp. usually found in large numbers (all tages) on sorghum surveyed and infested with Rhopalosiphum maidis corn leaf aphid) and Schizaphis graminum (greenbug) in several ast-central district counties. Lady beetles, including Scymnus p., abundant in field heavily infested with greenbug in Morton ounty. (Bell). FLORIDA - Four adults and 25 larvae of H. onvergens collected in 100 sweeps of alfalfa at Gainesville, lachua County. (Fla. Coop. Sur.).

EDERAL AND STATE PLANT PROTECTION PROGRAMS

RASSBUGS - UTAH - Labops utahensis, L. hirtus, and Irbisia spp. aused moderate damage to some planted grasses in southern end of ranklin Basin in Cache County and in several areas of Juab County. Knowlton, Jones).

GRASSHOPPERS - SOUTH DAKOTA - Becoming adults and moving into corn, alfalfa and soybeans. (Walgenbach). MONTANA - Averaged 10+ per square yard on 100,000-150,000 rangeland acres plus 40,000 acres where migration into wheat and barley occurred in Sheridan, Daniels, Roosevelt, Valley, Phillips, Garfield, McCone, Dawson, and Richland Counties. (Pratt, July 12). UTAH - Controls applied to 7,000+ acres at Hill Air Force Base in Weber County. Outbreak worst reported in several years. (Knowlton). Reports indicate local outbreaks, especially at mouths of canyons, along the Wasatch Front, and in Colliston area of Box Elder County to Payson, Utah County. Grasshoppers abundant and moving from range into cultivated fields in Nephi and Levan area of Juab County, and on benchlands. Damage severe in some fields and in foothill areas of Weber County. (Jones, Rogers). NEVADA - Melanoplus sanguinipes (90 percent) and mixed species (10 percent) averaged 4 per square yard on 4,500 acres of crested wheatgrass in Kings River Valley, Humboldt County. M. sanguinipes (50 percent) and Aulocara elliotti and bandedwing species (50 percent) ranged 3-6 per square yard on 1,500 acres of rangeland in Schoolhouse Canyon area, Elko County. (Kail).

MORMON CRICKET (Anabrus simplex) - NEVADA - Ranged 20-25 per square yard on 5 acres of rangeland and in home garden near Humboldt Canyon, Humboldt Range, Pershing County. (Rowe).

JAPANESE BEETLE (Popillia japonica) - MASSACHUSETTS - Adults heavier statewide than for many years. (Jensen). MARYLAND - Adult populations ranged light to moderate. Egg laying underway in all areas of State, but past 10-14 days of hot, very dry weather should cause heavy mortality of newly hatched grubs in all areas. (U. Md., Ent. Dept.). OHIO - Trapping revealed presence of this pest near North Carlisle and Donnelville, Clark County; single adult taken at Fort Recovery, Mercer County. These locations outside current regulated area. Adult taken at Fort Recovery is first time P. japonica taken in Mercer County. Mild winter and adequate soil moisture in spring 1974 provided favorable conditions for adult survival. Adult populations and feeding damage may be more prevalent than 1973. (Lawrence). INDIANA - Adult taken in Warrick County trap July 15, 1974, by M. Auffit. This is first trap record in county. Trap catches in nonregulated areas of northeast Dubois and Greene Counties heavy for first time. (Clark). TENNESSEE - Adults collected from traps at two locations in Grainger County July 11, 1974. This is first time collected in this county. (Hammett, Snodgrass). Emergence probably peaked in known infested areas and counts very heavy on snap beans in northern portion of eastern area. (Quillin).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Light in cotton fields in Pecos, Reeves, Glasscock, Reagan, Upton, and Midland Counties. (Neeb).

Iew United States Records

)RANGE SPINY WHITEFLY (Aleurocanthus spinferus (Quaintance)) - IAWAII - Immatures collected from rose foliage in Kapiolani Park tose Garden at Honolulu, Oahu, July 11, 1974, by P. Yamanaka.)etermined by J.W. Beardsley. Confirmed by L.M. Russell. This is ı new United States record, but A. spiniferus is not known to ıccur in the continental U.S. Delimiting surveys concentrated in ;urrounding residential areas up to one mile distant from site /here pest first found. Variable infestations of all stages found ın roses, citrus (navel orange, lime, tangerine), and Bartlett ıear throughout survey area. Generally, infestations ranged light .o moderate on roses and were light on citrus. (Mau et al.).

. spiniferus has been referred to as the most destructive leyrodid attacking citrus in tropical Asia, and is considered he seventh most important citrus pest in Japan. Trees heavily nfested with this whitefly lose vitality and continued heavy nfestation eventually leads to tree mortality. Damage occurs rom feeding on the foliage and the formation of sooty mold which evelops on the honeydew. Recorded hosts include citrus, rose, ersimmon, grape, pear, akebia, balmtree, willow, and guava. This hitefly has been recorded in the Philippines, China, India, Japan, ormosa, Indonesia (Sumatra, Java), Malaya, and Guam. It has also een reported as occurring in Sri Lanka (Ceylon), Iran, Pakistan, hailand, Vietnam, Caroline Islands (Truk), Tanzania, Mauritus, nd Kenya. A. spiniferus has been intercepted at the ports of oboken, Honolulu, San Francisco, and Seattle. For details of he description, life history, and habits, see CEIR 9(17):321-322, pril 24, 1959. (PPQ).

CECIDOMYIID MIDGE (Contarinia acetosellae) - GEORGIA - Tift)unty. (p.583).

ew State Records - AN APHID (Acyrthosiphon pelargonii) - HAWAII - ıwaii Island. (p.578). EUROPEAN ALFALFA BEETLE (Subcoccinella igintiquatuorpunctata) - MARYLAND - Washington County. (p.574). POWDER-POST TERMITE (Cryptotermes brevis) - MARYLAND - Independent .ty of Baltimore. (p.582). A PSYLLID (Psylla celtidisvesicula) - EST VIRGINIA - Kanawha County. (p.581).

ew County Records - ALFALFA BLOTCH LEAFMINER (Agromyza frontella) W YORK - St. Lawrence, Franklin (p.574). BLACK TURPENTINE BEETLE)endroctonus terebrans) SOUTH CAROLINA - Colleton (p.580). ROPEAN CORN BORER (Ostrinia nubilalis) SOUTH CAROLINA - Barnwell).571). EUROPEAN ALFALFA BEETLE (Subcoccinella vigintiquatuor- ınctata) PENNSYLVANIA - Lancaster, Philadelphia, Franklin (p.574). CE FLY (Musca autumnalis) MISSISSIPPI - Winston, Grenada, llahatchie, Union (p.581). AN ICHNEUMON WASP (Bathyplectes rculionis) OHIO - Hancock (p.583). A JAPANESE WEEVIL (Calomycterus tarius) IOWA - Dallas (p.575). LESSER CORNSTALK BORER (Elasmopalpus gnosellus) SOUTH CAROLINA - Clarendon, Lexington (p.575). A FTBACK TICK (Ornithodoros coriaceus) CALIFORNIA - Nevada (p. 582). STERN CORN ROOTWORM (Diabrotica virgifera) IDAHO - Oneida. SSOURI - Maries (p.572).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARIZONA																								
Mesa 7/8-14			BL	7		5				6						3		1		616		28	54	
FLORIDA																								
Gainesville 7/12-18			BL					7	2	2						2			3	2	8	4		
ILLINOIS (County)																								
Ogle 7/9-15			BL	36													7		96					
INDIANA (Districts)																								
South West 7/5-11			2BL	1												2		21	1					
West Central 7/5-11			2BL	23														32	95					
IOWA																								
Beaconsfield 7/7-13			BL	65													5	40	112					
Gilbert 7/7-13			BL	75													3	40	148					
KANSAS																								
Great Bend 7/10-16			BL	5			52			2								1	18			17		
Tribune 7/8, 11			BL				20											1	6					
KENTUCKY																								
Lexington 7/16-18			BL	2															24			1		
MICHIGAN (Counties)																								
Lenawee 7/9-15			BL	72													1	71	278					
Oceana 7/8-15			BL	68													11	59	168					
MINNESOTA																								
Fergus Falls 7/11-17			BL														2							
Worthington 7/11-17			BL															9						
MISSISSIPPI																								
Stoneville 7/12-18	71-96	0.42	2BL	29				17	4	313								4	62		8	152	4	
NEBRASKA																								
Clay Center 7/17			BL	36			84			3							1	38	61			2		
North Platte 7/17			BL				2								4		2							

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (salt marsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronia diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Lasperyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
NEW HAMPSHIRE																								
Lee 7/15			BL	1														2						
NEW JERSEY																								
Seabrook 7/10-14			7BL	19													13							
Vineland 7/10-16			7BL	15						1							9							
NEW MEXICO																								
Las Cruces 7/19			4BL							16													2	
NORTH DAKOTA																								
Bismarck 7/15-19			BL											104			12		5					
Fargo 7/15-19			BL														20		3				3	
OHIO																								
Wooster 7/13-19			3BL	270													2	51	392			1		
OREGON (Counties)																								
Linn 7/11-17			BL	4														3						
Marion 7/11-17			BL	2														7						
SOUTH DAKOTA																								
Brookings 7/11-17			BL	50			54										44	9	185					
TENNESSEE (Counties)																								
Hardeman 7/15-19			BL	7				7									4		19			13	1	
Madison 7/15-19			BL	7				8											19			45		
VIRGINIA																								
Blacksburg 7/5-11			BL	11												3			247					

Tropidosteptes pacificus, A Western Ash Plant Bug Introduced into Pennsylvania with Nursery Stock (Hemiptera : Miridae)

A. G. Wheeler, Jr. and Thomas J. Henry 1/

Tropidosteptes pacificus was described from Oregon by Van Duzee (1921) and now is known from Arizona, California, Utah, and Washington from specimens in the U.S. National Museum Collection. Usinger (1945) briefly described the adult, last-instar nymph, and biology. In California the life history on ash is similar to that of T. illitus (Van Duzee). Eggs are inserted in woody tissue, petioles, and midribs of leaves and hatch in late February to earl March; adults mature in April. T. pacificus has a second generatio before disappearing in July. Although Usinger (1945) found that this plant bug was not as abundant and caused less damage to ash than T. illitus, severe damage to ornamental trees by T. pacificus has been reported. At Portland, Oregon, T. pacificus extensively damaged 2,500 three to four-year-old trees in 1969. 2/ In California, it recently defoliated ash trees along streets, in parks, and golf courses. 3/

On June 25, 1973, F.B. Negley and H. Wolff collected a single specimen of a Tropidosteptes from green ash, Fraxinus pennsylvanic lanceolata, in a nursery in Erie County, Pennsylvania. 4/ The specimen was identified as the western T. pacificus by T.J. Henry.

To verify the establishment of T. pacificus in the nursery, we asked Mr. Wolff to take beating tray samples from the same trees beginning in May 1974. His collection of June 1 contained fourth and fifth-instar nymphs and one adult; on June 5 we visited the nursery to make observations and additional collections. By then, adults outnumbered nymphs and were much more abundant than those of the native species T. rufusculus Knight.

Damage to the trees was not extensive but there was discoloration of the leaves sufficient to warrant chemical treatment. By the time insecticide was applied, adults had been present for nearly 2 weeks so that there was ample time for oviposition to have occurred. This pest is easily controlled if chemicals are applied before oviposition has taken place. An early application aimed at the nymphs, after all eggs have hatched, would eliminate injury during the current season and also would prevent the necessity of spraying the following season since no eggs would be deposited. It therefore is important to establish the hatching date of T. pacificus in Pennsylvania.

Second generation T. pacificus was present in a collection made by Mr. Wolff from the same trees on July 10, 1974. The sample contained mostly fifth-instar nymphs and a few fourth instars and adults. Chemical application in mid-June had not been early enough

1/ Bureau of Plant Industry, Pennsylvania Department of Agriculture, Harrisburg, PA 17120
2/ APHIS, PPQ, USDA, Pest Survey and Technical Support Staff, personal communication
3/ CEIR 24(25):463, 1974
4/ CEIR 24(26):486, 1974

to prevent oviposition by first-generation adults. A second treatment applied in mid-July, before many adults of the second generation had matured, may have been in time to prevent oviposition. One adult of the native species T. amoenus Reuter was present in the July 10 collection. T. amoenus is also known as a pest of ash (Dickerson and Weiss, 1916).

The only eastern species of Tropidosteptes that might be confused with T. pacificus is T. canadensis Van Duzee. Both species are yellowish-testaceous but T. pacificus may be recognized by the black spot on each pronotal callus, sparser and shorter pubescence, and paler first antennal segment. Nymphs of T. pacificus and T. canadensis are shiny yellowish-green but late-instar nymphs of T. pacificus have 2 brown spots on the pronotum, usually 2 spots on the scutellum, and sometimes 2 spots on the abdomen.

For many introduced species the means of introduction is conjecture; the introduction of T. pacificus, however, can be accounted for. The green ash on which T. pacificus was abundant had been brought into Pennsylvania about 1970 from an Oregon nursery as 4 to 6-foot dormant, barerooted trees or "whips." Eggs of T. pacificus undoubtedly were present in woody tissue of the trees. Movement of nursery stock containing eggs probably accounts for the introduction of most mirid species into new areas. Although spraying may have eliminated this pest from the nursery in Erie County, it may now be established on native green ash growing in a hedgerow bordering the nursery. A check of these trees, however, revealed only native species of Tropidosteptes.

Through shipments of ash nursery stock, T. pacificus may occur in other Eastern States. Suspected specimens may be submitted to the Bureau of Plant Industry, Pennsylvania Department of Agriculture, Harrisburg, PA 17120, or to the USDA Insect Identification and Beneficial Insect Introduction Institute, Beltsville, MD 20705.

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U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
24(30):588-589, 1974

NEW CALEDONIAN ORCHID PEST (*Nysius caledoniae* Distant)

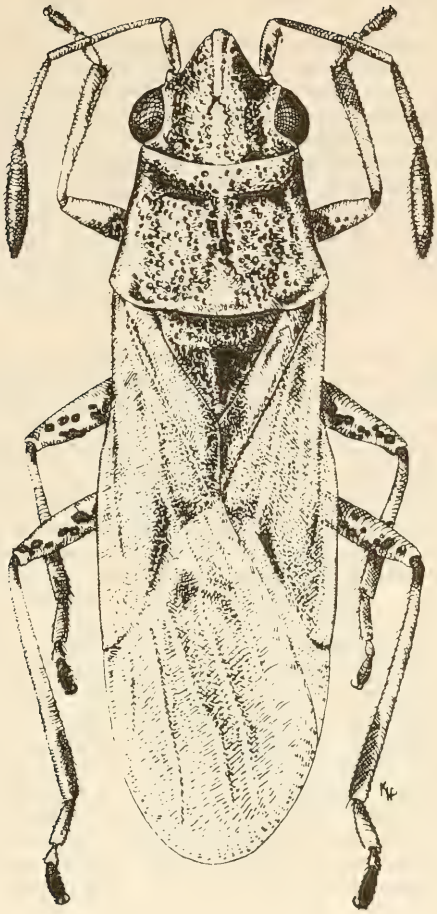
Economic Importance: This lygaeid has not been recorded as a pest of cultivated plants in its native home in the western Pacific. However, it was a serious pest when it was first observed in Hawaii in 1964. The adults, at least, seriously damaged the buds and blossoms of Vanda orchids. Approximately 80 percent of the flowers in a quarter-acre planting were affected. Investigation disclosed that the bugs were being blown directly onto the orchids from a stand of sourbush (*Pluchea odorata*) and possibly *Erigeron* sp., which was also common in the area. There were no indications of breeding on the Vandas. Other orchid plantings in the Puna District of the Island of Hawaii were not affected. By late May damage had greatly subsided, probably because the wild weed hosts were removed. It seems likely that this pest might become established in the commercial flower-growing areas of southern California or elsewhere in the warmer parts of the United States. To date, no interceptions have been made at ports-of-entry on the mainland.

Hosts: Taken from the flower heads of several common weeds of the family Compositae: *Emilia sonchifolia*, *Erigeron canadensis*, *Pluchea indica*, *P. odorata*, *Sonchus oleraceus*, and *Verbesina encelioides*.

Distribution: Described from New Caledonia and now known from the Philippine, Bonin, Mariana, western Caroline, and Hawaiian (Oahu, Hawaii, and Lanai) Islands.

Life History and Habits: Little is known of the life history of this bug, but Usinger (1942, p. 140) pointed out that all of the species of *Nysius* that he studied have very similar life histories and habits. He collected eggs of *N. caledoniae* from heads of *Emilia* sp. on Guam and *Erigeron* sp. in the Philippines. Incubation period lasted 5 days. In Hawaii the entire life cycle probably takes about 6 weeks. Since development is continuous, there is a possibility of 8 or 9 generations per year.

Description: ADULT - Length 4.5-5.0 mm. Head much wider than long (65: 40), black, with obscure longitudinal, testaceous vitta on disc; bucculae elevated, wider anteriorly, lower margins gently arched, abruptly terminating at base of head, subequal to first rostral segment. Antennae testaceous, much shorter than combined length of pronotum and corium; proportionate lengths of segments I-IV, 20:45:40:50. Pronotum much wider than long (80: 50), coarsely fuscous punctations; humeral angles and spot in middle of basal margin, pale. Hemelytra subhyaline, subequal to length of membrane; claval commissure and three spots on apical margin, fuscous, surface pilose. Femora stramineous, much spotted with fuscous.



Adult of Nysius caledoniae

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24(30):590-591, 1974

Weather of the week continued from page 566.

power lines. A storm soaked Grand Junction, Colorado, with 1.30 inches of rain in less than an hour. Late Friday night, extensive flooding occurred between Needles, California, and Lake Havasu City, Arizona, where power and phone lines were downed. Three persons drowned as a result of floods. Saturday, large amounts of moisture were pumped into the Southwestern States by Tropical Storm Gretchen. Needles, California, got 2 inches within only six hours causing extensive flooding. In southern Arizona, Wickenburg recorded nearly 2 inches in one hour. Sunday, thunderstorms dumped heavy rains on the Duluth, Minnesota, area. During a one-hour period 2.25 inches of rain were reported flooding the business district of Duluth with 6-8 inches of water.

TEMPERATURE: The Great Plains States experienced a blistering heat wave last week with temperatures averaging 6-11 degrees above normal. Meanwhile, some sections in the Southwest averaged 1-6 degrees below normal. The Pacific Northwest and much of the Southeast also reported below normal temperatures. Monday, a cold front from New England to the central Plains separated warm and humid air with temperatures in 90's south from cooler, drier air and the 80's to the north. Record highs for the day were set at Richmond, Virginia, 98 degrees and Raleigh and Durham, 93 degrees. Tuesday, warm weather continued in the Plains, the Mississippi Valley, the Southwest, and the Gulf States as temperatures reached into the 90's. Readings in the 70's were common in the Great Lakes, New England, and the Pacific Northwest Wednesday afternoon, temperatures were hot again in the Plains and the Mississippi Valley and the Desert Southwest as readings rose above the 100-degree mark on many occasions. Extremely hot temperatures persisted from Thursday through the weekend across the Nation's midsection. Temperatures were into the high 90's and 100's every day. Omaha, Nebraska, reached 107 degrees Friday Sunday was the hottest day in almost 18 years at Topeka, Kansas, with 106 degrees. Cooler weather began to move into the northern Plains Sunday. Although temperatures cooled by 10-15 degrees, afternoon highs were still well into the 90's.

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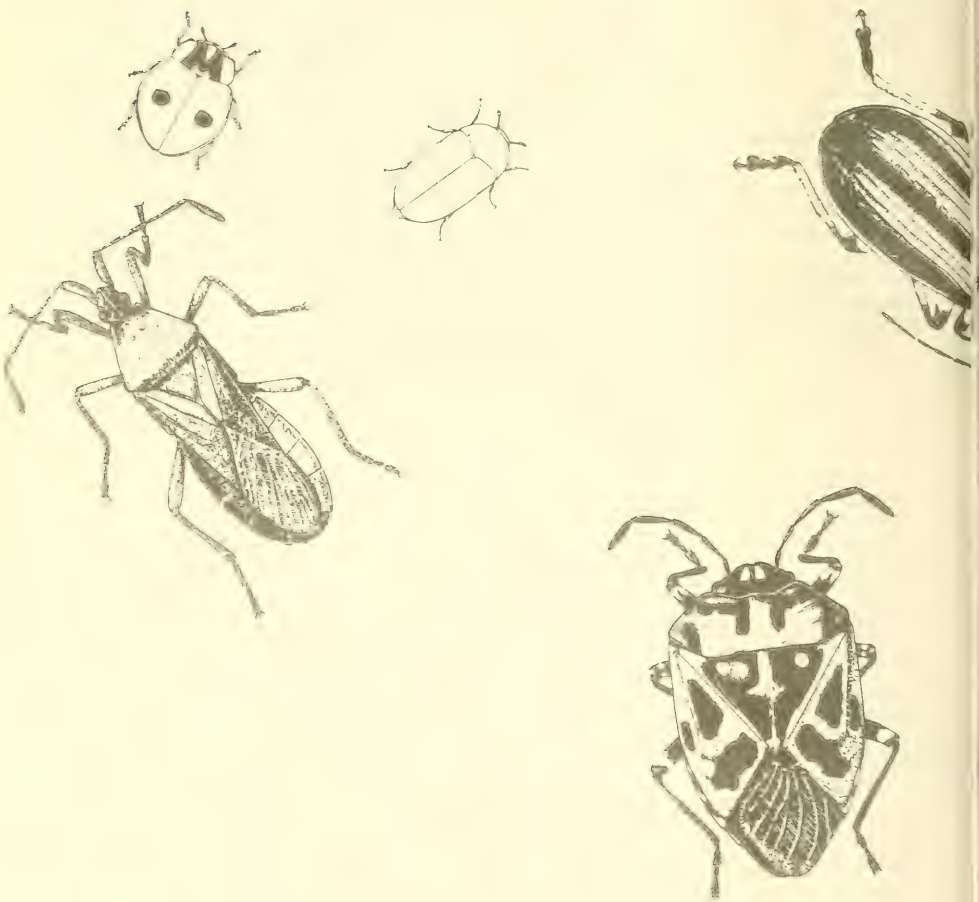

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Cooperative Economic Insect Report

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ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Federal Center Building
Hyattsville, Maryland 20782

Volume 24 August 2, 1974 Number 31

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

ASTER LEAFHOPPER heavy on various crops in Wisconsin and Michigan; aster yellows present. GREENBUG on sorghum continued heavy in west-central Oklahoma, heavy in High Plains of Texas, increased in east-central New Mexico and in Arkansas Valley of Colorado. POTATO LEAFHOPPER threatening on beans in central Lower Michigan, seriously damaged alfalfa in Ohio. (pp. 595-597).

EUROPEAN CORN BORER found on grain sorghum in western Florida, first time found feeding on crop in State; second-generation moths in flight in Corn Belt. (p. 598).

CORN ROOTWORM adults clipping corn silks in some corn-producing States. BANKS GRASS MITE increased on corn in Arkansas Valley of Colorado, continued heavy on irrigated corn and sorghum in Panhandle areas of Texas and Oklahoma, and caused much yellowing of corn in areas of New Mexico. (pp. 599, 600).

THREECORNERED ALFALFA HOPPER caused damage to soybeans for first time in South Carolina. (p. 602).

BOLL WEEVIL and BOLLWORMS still damaging in cotton-growing areas. (pp. 602-604).

Heavy SPRUCE BUDWORM moth flights reported in Maine and Pennsylvania. (p. 608).

Detection

- A LADY BEETLE reported from Hawaii is a new United States record. This native species of Southeast Asia is not known to occur in the continental U.S. (p. 606).

New State records included 2 APHIDS from Tennessee and Maryland (p. 608), and a CERAMBYCID BEETLE and a MANTID from Hawaii (p. 606).

For new county records see page 612.

Reports in this issue are for week ending July 26 unless otherwise inidcated.

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NATIONAL WEATHER SERVICE'S 30-DAY OUTLOOK

AUGUST 1974

The National Weather Service's 30-day outlook for August shows temperatures averaging above the seasonal normals in the central Rockies, the central and southern Great Plains, and the middle Mississippi Valley. Below normal temperatures are expected in the Northwest, the California Valley, the southern Plateau, and the Northeast. In unmentioned areas, mean temperatures should be near normal. More rainfall than the climatic median (or fiftieth percentile) is expected in the Pacific Northwest, the eastern half of the Intermountain Region, and from the northern Great Plains eastward through the Great Lakes Region to northern New England. The rest of the country, including the central and southern Great Plains, should receive less than median amounts.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price $5.00 a year.

For Weather of the week see pages 615 and 616.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - MICHIGAN - Present in corn and small grains in Menominee and Delta Counties; lighter in grains than corn. Larvae small, but counts not heavy enough to justify controls. Growers in area should check fields for larvae. (Breyer et al.).

ASTER LEAFHOPPER (Macrosteles fascifrons) - WISCONSIN - Populations very heavy in various crops and carry record high infection level. Populations in potatoes less than 5 per 25 sweeps and noted at 20 per 50 sweeps in half-grown Portage County carrot field. Weeds still main source of yellows inoculum and several fields contain very many yellowed weeds. (Wis. Ins. Sur.). MICHIGAN - Lettuce fields in Stockbridge area, Ingham County, showed 20-50 percent aster-yellows infection. Leafhopper counts heavy in most fields, controls should be intensified. Carrots in area also infested. (Cress).

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Mapping concluded week ending July 19. Thistle acreage decreased in most areas, except in northwestern Kern County. About 81,000 acres of Russian thistle stands mapped for possible control procedures this fall. Possible that about 25 percent of acreage will not be treated due to several factors (low beet leafhopper populations, discing, etc.). Approximate acreage by county as follows: Fresno 14,000; Kings 8,230; San Luis Obispo 10,750; Kern 45,280; and Santa Barbara (Cuyama Valley) 2,530. (Cal. Coop. Rpt.).

CORN EARWORM (Heliothis zea) - VIRGINIA - Larvae in field corn extremely light in Isle of Wight County; based on limited number of samples. Most larvae in fifth instar although few third and fourth instars found. (Allen). KENTUCKY - Damaged late-planted corn in Warren County. (Barnett, Driskill). TENNESSEE - Immatures fed in whorls of late corn in Lawrence and Tipton Counties. Controls recommended in some of infested fields. (Cagle, Gordon). OKLAHOMA - Moderate in young sorghum in Wagoner County. (Okla. Coop. Sur.). UTAH - Moths averaged 1.5 per night in blacklight traps at Salt Lake City, Salt Lake County, and Logan, Cache County. (Stephens, Knowlton).

CORN LEAF APHID (Rhopalosiphum maidis) - IDAHO - Heavy on leaves and tassels of sweet corn for processing in Payette County. (Gardner). NEW MEXICO - Counts of 150 per sorghum plant reported from Chaves County. Small colonies observed on sorghum in Luna and Grant Counties. (N.M. Coop. Rpt.). TEXAS - Large numbers observed on grain sorghum in Hardeman County, but populations well below damaging levels. (Boring). ALABAMA - Maize dwarf mosaic, associated with aphids, is serious problem in corn throughout Shelby County. Consistant damage past few years has practically eliminated corn production in area. More than 50 percent of stalks in 10-acre field in Lee County in heavy Johnson grass area badly damaged. (Clark et al.).

OKLAHOMA - Scattered heavy infestations of corn leaf aphid present in sorghum in southwest counties. Moderate in young sorghum in Wagoner and Muskogee Counties. (Okla. Coop. Sur.). KANSAS - Heavy infestations in sorghum generally declining in northeast, east-central, southeast, south-central, and southwest crop districts.

Lady beetles heavy in infested fields in all districts. Parasitic wasp activity to some extent in southeast district largely responsible for Rhopalosiphum maidis decline. (Bell). ILLINOIS - Some increase of corn leaf aphid noted on corn not yet tasseled. Up to 50 percent of plants infested in occasional fields. In most fields, 5-12 percent of plants infested, with less than one percent of all plants with moderate to heavy infestations. (Sur. Bull.). WISCONSIN - Populations continued much heavier on corn in central area. Ranged 200-300 on 20 percent of plants as far north as Portage and Marathon County line. Populations less in other areas of State except on individual plants. Treatments should be applied before pollination. (Wis. Ins. Sur.).

GREENBUG (Schizaphis graminum) - SOUTH DAKOTA - Strong possibility of infestation on winter wheat plantings exists. Since 1967, damaging populations have been noted about one year out of every two. Ranged light to moderate on most milo and forage sorghum throughout State. (Walgenbach et al.). NEBRASKA - Present in most untreated sorghum, but rate of increase slowed by hot, windy weather. In 330 Clay County sorghum fields surveyed, ranged 0-5,500 (average 192) per plant, with 90 percent of plants infested. Parasitism by Lysiphlebus sp. (a braconid wasp) light in Clay County, with average of 0.12 percent of greenbugs parasitized (Gary, Keith). In York, Hall, and Buffalo Counties, growth of dryland sorghum appears arrested due to drought and S. graminum; counts averaged about 500 per leaf on lower 1-3 leaves. Damage appears light. (Raun). In 3 Gage, Johnson, and Lancaster County sorghum fields surveyed, populations varied 0-1,200 (average 140) per plant. (Koinzan, Keith). In Lincoln County and surrounding area, counts ranged 4,000-5,000 per plant. In many fields, lower 2 leaves gone, and S. graminum feeding on third and fourth leaves. (Campbell).

KANSAS - Although most greenbug infestations in sorghum surveyed in southwest district noneconomic and averaged about 100 per plant overall, incidences of heavy infestations becoming more common. Heaviest infestations found in Meade, Haskell, Stanton, and Morton Counties where counts exceeding 1,000 per plant occasionally encountered and up to 2,000 per plant in Stanton and Morton Counties. No parasitic wasp activity noted in southwest district. Lady beetle activity heavy in one heavily infested field in Morton County. In northeast district, greenbug generally light but increasing particularly in some of easternmost counties. Of 44 fields scouted in Nemaha County, 24 infested with 100-1,000 per plant, none over 1,000 per plant. Parasitism good in many fields in northeast district but generally not as heavy as desirable. S. graminum activity remained at relatively low level in sorghum in east-central and southeast districts and at least in eastern half of south-central district. (Bell).

OKLAHOMA - Greenbug continued heavy in sorghum in Caddo and Washita Counties. In Texas County, ranged up to 300 per plant but averaged 50 or less per plant in most fields in county. (Okla. Coop. Sur.). TEXAS - Heavy on grain sorghum in much of High Plains area. Heaviest in Hale, Castro, Swisher, and Deaf Smith Counties. Ranged 1,000-1,100 per plant in untreated areas of Hale County; most fields in county treated past 14 days. Survey indicated populations increased at 10-fold rate per week. Some difficulty noted in control in above counties and evidence of resistance in insecticides reported. S. graminum generally light

to moderate in Rolling Plains area; ranged 150-200 per plant in Hardeman County. Populations in area well below economic levels. (Latham et al.). NEW MEXICO - Greenbug increased on sorghum in Curry and Roosevelt Counties, caused some streaking. Controls not entirely effective in many cases. (N.M. Coop. Rpt.). COLORADO - Increased on sorghum in all areas of Arkansas Valley; ranged 10-100 per plant on 50-100 percent of plants. (Schweissing).

POTATO LEAFHOPPER (Empoasca fabae) - WISCONSIN - Still light, less than 10 per 25 sweeps in potatoes and snap beans. Should increase in southern area within next 7-14 days as second alfalfa crop is cut. Ranged 1-2 per sweep in more mature soybean fields in southeast district. Ranged 2-3 per sweep in one Dane County field. Expected to increase as second hay crop is cut. Ranged generally 2-3 per sweep in forage crops. One northern La Crosse County field averaged less than one per sweep and nearby field noted with 5+ per sweep. Populations noted up to 30 per sweep near Broadhead, Green County, and alfalfa beginning to yellow due to infestation. (Wis. Ins. Sur.). MICHIGAN - Common in field beans, threatening in Bay, Saginaw, and Gratiot Counties. (Ruppel).

OHIO - Potato leafhopper seriously damaged late-cut, second-cutting alfalfa statewide; populations increased rapidly past few weeks. Almost all uncut alfalfa surveyed contained economic counts of one or more per sweep. One Miami County field yielded 5-8 per sweep. Delays in cutting lead to increased infestation and injury. (Fox). DELAWARE - Infested lima bean fields throughout Kent and Sussex Counties. (Burbutis).

SPOTTED ALFALFA APHID (Therioaphis maculata) - COLORADO - Light, ranged 0-500 per 100 sweeps, on alfalfa in Arkansas Valley. (Schweissing). KANSAS - Light in several alfalfa fields surveyed in southwest district; heaviest count (25-50 per sweep) in fields in Morton County. (Bell). MISSOURI - Increased in south-central area; ranged 0-200 per 10 sweeps of alfalfa. (Munson). WISCONSIN - Very light in most alfalfa, but one field near Holmen, La Crosse County, noted with 50 per sweep; 20 per sweep noted in Marquette County field. (Wis. Ins. Sur.).

TOBACCO BUDWORMS (Heliothis spp.) - TENNESSEE - Based on one-percent plant samples in 10 tobacco fields checked in Trousdale County July 19, Heliothis spp. averaged 45, 80, 100, and 29 per acre in 4 fields; Campoletis perdistinctus (an ichneumon wasp), a parasite of Heliothis spp., ranged from zero to average of 400 per acre in same 10 fields. Survey July 25 of these 10 fields showed average of 67 Heliothis spp. in one field; C. perdistinctus ranged from average 14 in one field to average of 200 in 2 fields. (Gordon).

TOBACCO HORNWORM (Manduca sexta) - DELAWARE - Late-stage larvae light in several tomato fields. (Burbutis). INDIANA - Pupation on tobacco began in Tippecanoe County. (Sillings). KENTUCKY - This species and Heliothis virescens (tobacco budworm) damaged 1-2 percent of tobacco plants in Nicholas County and 2-3 percent of plants in Robertson County. H. virescens damage slightly heavier in Warren County. Statewide, damage by M. sexta much lighter than usual and damage by H. virescens moderate. Tobacco growing rapidly. Most burley 3.5+ feet tall. Some topping completed in southern areas. (Barnett). TENNESSEE - Live Manduca spp. larvae found in 2 of 10 tobacco fields checked in Trousdale County July 19; counts at

control levels in one of these fields. Live larvae found in 3 of these 10 fields July 25, but none of infested fields at control level. (Gordon).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - FLORIDA - Two full-grown larvae collected from stems of grain sorghum in untreated field at Greenwood, Jackson County, July 9, 1974, by A. Knutson. Determined by G.W. Dekle. Confirmed by D.M. Weisman. This is first time this species has been found feeding on a crop in State. Same field surveyed July 24; additional full-grown larva and 3 pupae (probables) found in sorghum stems. Larva determined O. nubilalis by G.W. Dekle. Pupae being reared at Greenwood. Surveys in Jackson County negative in nearby corn at Greenwood, sorghum and corn at Two Egg, sorghum and corn at Cottondale, and miscellaneous corn fields in county. No broken corn tassels observed from automobile between Gainesville, Alachua County, and Marianna, Jackson County. Blacklight trap placed in operation on farm where specimens found. (Fla. Coop. Sur.).

INDIANA - Summer-generation of European corn borer moths, mostly males, appeared as far north as Porter County in blacklight traps. (Sillings). MICHIGAN - Emergence of second-generation moths began July 19. Sweet corn and pepper growers should be on 3 to 4-day spray program. (Cress). WISCONSIN - Pupae detected in Hancock area in addition to those in Mazomanie area week ending July 19. Second moth flight probably underway in advanced southern, central and west-central counties. First flight still continuing in eastern and northeastern districts. Larvae in these areas mostly first and second instars. Some third instars noted. Larvae mostly in fourth instar in southern, western, and central areas; fifth instars increasing. Some first-instar larvae still noted in some fields. Much treatment of sweet corn made. Treatments applied too late in most cases for optimum, or even fair, control of first-generation larvae. Most larvae out of tassels and boring into plant. (Wis. Ins. Sur.).

DELAWARE - European corn borer moths averaged 40 per night in blacklight trap collections in western Sussex County. (Burbutis). MAINE - Eggs and larval damage to corn reported in southern and central areas. Most corn in central area previously uninfested. Activity unusual; no pupation noted before cornstalks plowed down. Only few adults collected in light traps, also very late. (Gall).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - OKLAHOMA - Heavy in grain sorghum in Cotton County. Larvae killed large spots in some fields. Heavy in young sorghum in Caddo and Washita Counties. (Okla. Coop. Sur.). GEORGIA - Caused severe damage to corn in Troup County. Destroyed field of sorghum in Emanuel County; heavy on sorghum in Spalding and Troup Counties. (Williams et al.).

FALL ARMYWORM (Spodoptera frugiperda) - NEW MEXICO - Caused "flagging" in 30 percent of sorghum near Deming, Luna County, with every sixth plant showing flower damage. Some "flagging" observed in Grant and Hidalgo Counties. (N.M. Coop. Rpt.). MISSISSIPPI - Larvae of all ages infested 25 acres of corn in Pearl River County. Corn 2-4 feet tall and 95+ percent of stalks infested with 1-10 larvae. (Robinson). ARKANSAS - Infested whorls of young sorghum at experiment station in Lee County. (Sterling).

MISSOURI - Fall armyworm larvae reported in late corn throughout State. Heavy in late-planted corn in south-central area. Corn 8-12 inches tall 100 percent infested with 2-5 second instars per plant. Early planted corn in south-central area with 12-45 percent of plants infested with one nearly full-grown larva per infested plant. (Munson). INDIANA - Middle-instar larvae observed in occasional corn whorls in southern districts. Rather heavy infestation, with larvae from early to mid-instar, observed in 24-inch (extended leaf) corn in Boone County. (Meyer). DELAWARE - Light in corn in Sussex County. (Burbutis).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - NEBRASKA - Heavy moth flights of 1,000+ per light trap per night reported from near Parks, Dundy County. No economic larval infestations yet reported in State. (Konsler).

CORN ROOTWORMS (Diabrotica spp.) - KANSAS - Adults in silking corn surveyed throughout southwest district averaged less than one per plant. In 2 Brown County fields, up to 20 beetles per plant found which had severely pruned silks. Larval damage had been very severe in these fields, which had poor root systems due to droughty growing conditions. Although these fields received soil treatment at planting time, many plants "goosenecked" and some had fallen to ground and were dead. (Bell). IOWA - Damage reported from treated cornfields in Linn, Lyon, O'Brien, and Shelby Counties. Adults of D. virgifera (western corn rootworm) cutting corn silks in Ringgold, Page, Pottawattamie, and Taylor Counties; 1-20 per plant. Treatments applied in fields where more than 10 per plant observed. About 5 percent of Taylor County fields treated for adult Diabrotica spp. (Iowa Ins. Sur.).

WISCONSIN - D. longicornis (northern corn rootworm) and D. virgifera adults increased in cornfields in southern counties. Averaged less than one per plant in all but exceptional fields, up to 4-5 noted on individual plants. Many damaged plants lodged in areas of Columbia and Ford du Lac Counties due to locally severe rainstorms July 19. Up to 20 percent lodging noted in one Dane County field. (Wis. Ins. Sur.). ILLINOIS - Diabrotica spp. appeared in more cornfields in fresh silk stage. (Sur. Bull.). OHIO - First D. longicornis adult found in Wayne County July 16. (Musick). Diabrotica spp. adults still emerging, peak expected next 7-10 days. Infestations of 80, 62, and 45 percent of examined plants occurred in Union, Darke, and Mercer Counties, respectively. Up to 10 adults per silk found in marginal corn rows, but highest average infestation was 2.4 adults per ear in Union County. (Fox).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - NEBRASKA - Adults ranged 0-15 per plant on corn in Buffalo, Hall, and York County areas. Few fields needed treatment due to silk clipping. (Raun). In 350 Clay County cornfields surveyed, beetles ranged 0-4 (average 1) per plant. (Gary, Keith). In Lincoln County and vicinity, beetles ranged 1-18 (average 5.5) per plant; heaviest infestation ranged 10-12 per plant. (Campbell). UTAH - Occasional damage to corn noted in Cache County. (Knowlton).

CHINCH BUG (Blissus leucopterus leucopterus) - OHIO - Hot, dry conditions very suitable for development of populations. More observed statewide on field corn than during comparable periods in 1972 and 1973. Mature plants seen with 60+ per plant. In

Pickaway County planting, 100 percent of 5 to 6-foot plants infested. (Fox). NEBRASKA - Adults and nymphs of chinch bug present on sorghum in Gage, Johnson, and Lancaster Counties. In 3 fields surveyed, ranged 0-12 (average 4) adults and 4 nymphs per plant. No serious damage detected. (Koinzan, Keith).

SORGHUM MIDGE (Contarinia sorghicola) - MISSISSIPPI - Adults averaged 4 per head on 50 acres of blooming sorghum grown for silage in Noxubee County. (Robinson). ARKANSAS - Survey negative on sorghum in mid-bloom stage at experiment station near Fayetteville, Washington County. (Boyer).

BANKS GRASS MITE (Oligonychus pratensis) - COLORADO - Increased o corn in Arkansas Valley; populations reached twelth leaf from bottom with much foliage injury. (Schweissing). NEW MEXICO - Caused much yellowing in corn throughout Chaves, Eddy, Dona Ana, and Luna Counties. Other mite species also reported and more samples being taken. (N.M. Coop. Rpt.). TEXAS - Buildup in grain sorghum and corn underway throughout Panhandle area. Economic in some corn fields in Hale County area, with treatments being made. In some Panhandle counties, populations have built up to point where controls should be made. (Latham). OKLAHOMA - Continued heavy in irrigated corn and sorghum in Texas County. Treatments made in 20 of 155 sorghum fields checked and 21 of 40 cornfields checked. (Okla. Coop. Sur.). NEBRASKA - This spider mite and Tetranychus sp. present in most cornfields in Platte Valley west of Grand Island. Economic in few fields, but populations light anc still increasing in most fields. (Raun, Campbell).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - NORTH CAROLINA - Infestations continued to expand in Northampton, Hertford, Gates, and Chowan Counties, particularly in Chowan County. Observations in Chowan County revealed economic infestations on wide variety of crops. Damage observed on sweetpotatoes, melons, peanuts, soybeans and on sweet and field corn. Spot checks along State Highway 32 in Chowan County revealed about 40 percent of fields, regardless of crop, with damage. Spots observed ranged in size from one-eighth acre to 10 acres. Estimate of acres treated in area to date difficult but would be several thousand. Continued damage to field corn in area diminishing, as fields now in early dough stage. Rain reduced populations in most areas, but with 7 to 10-day life cycle during warm periods, rapid buildup of T. urticae can be expected on peanuts. (Thompson, Hunt).

SMALL GRAINS

ENGLISH GRAIN APHID (Macrosiphum avenae) - WASHINGTON - Counts variable in several spring wheat fields near Fairfield, Spokane County, and in Pullman and Colfax areas of Whitman County. Few Rhopalosiphum padi (an aphid) present in same fields. Some fields appear to be at treatment levels, other appear to have enough predators, particularly syrphid fly larvae, to carry through without treatment. (Kelsey et al.). IDAHO - Generally below economic levels in 15 wheat fields in dough or hard-dough stage in Canyon, Owyhee, Payette, and Gem Counties. Some heads with 40-50 aphids per head, but average less than 15 per head. (Baird).

TURF, PASTURES, RANGELAND

FALL ARMYWORM (Spodoptera frugiperda) - ARKANSAS - First economic infestation of season reported on Coastal Bermuda grass at Magnolia, Columbia County. (Barlow).

FORAGE LEGUMES

PEA APHID (Acyrthosiphon pisum) - IDAHO - Averaged 1,000+ per sweep in alfalfa hay field at Marsing, Owyhee County. Most hay and seed fields infested below treatment levels in Canyon and Owyhee Counties. (Baird). Nymphs and adults found in alfalfa seed fields at various locations in Canyon County and in southwestern area. Counts ranged from less than 10 to more than one-half cupfull per sweep. (Waters). KENTUCKY - Remained heavy in central and northern areas. In Bourbon County, averaged 130 per 100 sweeps in alfalfa. (Barnett).

ALFALFA BLOTCH LEAFMINER (Agromyza frontella) - PENNSYLVANIA - Adults found on alfalfa in Cogan Station, Lycoming County, July 17. Adults averaged 3.4 per sweep with 1-2 percent damage reported. (Proseus). NEW YORK - Heavy pinholing on second-cutting alfalfa with every leaf pinholed in about 10 fields throughout upper Champlain Valley as of July 26. Expect extensive damage to alfalfa regrowth when larvae start feeding. (Thomas). Signs of pest appeared in second-cutting alfalfa in various areas throughout Schenectady County July 18. (Rood). MAINE - Mining of leaves on second stand of alfalfa light but adults heavy. Many small holes noted in leaves. (Gall).

EUROPEAN ALFALFA BEETLE (Subcoccinella vigintiquatuorpunctata) - PENNSYLVANIA - Adults found on bouncing-bet at Coxton, Luzerne County, July 17. No signs of any other stages noted. (Sporer).

GREEN CLOVERWORM (Plathypena scabra) - KENTUCKY - Larvae averaged 25 per 100 sweeps in alfalfa at location in Madison County. (Barnett).

GRASSHOPPERS - KENTUCKY - Adults and nymphs averaged 320 and 280 per 100 sweeps in alfalfa at different locations in Bourbon County. (Barnett).

SOYBEANS

MEXICAN BEAN BEETLE (Epilachna varivestis) - VIRGINIA - Populations and damage light throughout southern Tidewater region. Infestations spotty, but could soon become problem as populations begin to build in Isle of Wight, Prince George, and Southampton Counties and Independent Cities of Virginia Beach, Chesapeake, and Suffolk. (Allen). ALABAMA - Adult and larval feeding consumed 50+ percent of leaves in 2 large soybean fields in Madison County. Controls to be applied. (Magnusson, Henderson).

BEAN LEAF BEETLE (Cerotoma trifurcata) - OHIO - Adults infested 15-acre Pickaway County field, ranged 0-4 per row foot. This infestation heavier than normally encountered but damage non-economic. (Fox). MISSISSIPPI - Adults averaged 3 per 2 row feet in Noxubee, Oktibbeha, and Grenada Counties. (Robinson).

GREEN CLOVERWORM (Plathypena scabra) - MISSISSIPPI - Larvae ranged 1-3 per 25 sweeps in hill area soybeans. (Robinson). DELAWARE - Light larval populations feeding on soybean foliage in Kent and Sussex Counties. (Burbutis).

BLACK CUTWORM (Agrotis ipsilon) - IOWA - Larvae severely damaged 12 acres of late-planted soybeans in Mahaska County. (Iowa Ins. Sur.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis) - NORTH CAROLINA - Larvae light as far north as Johnston County. This significant as this foliage feeder must migrate from gulf and appearance in State this early is unusual. (Sprenkel, Hunt).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - GEORGIA - Reduced stand in several Dougherty County fields. Heavy in Madison and Pike Counties. (Goodson, Welborn).

GARDEN WEBWORM (Loxostege rantalis) - KANSAS - Caused severe folia damage in isolated instances in fields bordering grasslands in Labette and Cherokee Counties. (Bell).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - SOUTH CAROLINA - Caused economic damage to 12-inch tall soybeans in Chester County. This is first time this pest has caused economic damage to soybeans in State. (Thomas). OKLAHOMA - Moderate to heav and damaged soybeans in Webbers Falls area, Muskogee County; some heavy infestations present in Tulsa County. Ranged light to moderate in McCurtain County. (Okla. Coop. Sur.).

PEANUTS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ALABAMA - Larvae becoming more of a problem in several thousand acres of peanuts in Barbour, Geneva, and Houston Counties. (Walton et al.). TEXAS - Infested plants ranged 16.6-21.5 percent in Comanche County. Some individual fields in Stephenville area with 50-60 percent of plants infested. (Curtis).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Very few fields in Rio Grande Valley escaped infestation past season. Boll weevil remaine heavy throughout the valley. Punctures ranged 0-98 percent. Only light numbers of weevils taken in traps in Rolling Plains area, but caused 10-15 percent square damage in some fields in Fisher, Jones, Wichita, Wilbarger Counties. Producers in Jones and Stonewall Counties applied early season controls. (Parker et al.). OKLAHOMA - Percent punctured squares by county: Tillman up to 29, Jackson up to 21, Greer up to 28, Kiowa up to 6, Harmon up to 8, Caddo up to 52, Washita 2-10, Grady one, Muskogee and Wagoner 0-26 (Okla. Coop. Sur.). ARKANSAS - Increased slowly in most areas. Increases would likely have been greater if such widespread dry and hot weather had not occurred. Few areas now receiving rains may experience more rapid rate of increase. (Boyer).

MISSISSIPPI - Boll weevil on increase in hill county area cotton. Infested squares ranged 2-45 percent. Most areas on control schedule. (Robinson). ALABAMA - Counts in most fields with good controls in southern and central areas less than 20 percent punctured squares. Limited number of fields and acres on poor or no controls ranged 30-90 percent infested squares. Counts in mountain cotton in much of northern area ranged 10-50 percent with controls underway. Infestations in valley cotton in northern area generally light with square infestation below 20 percent in larger fields. Small fields ranged 15-40 percent with controls started. (Smith et al.). GEORGIA - Percent punctured squares ranged 1-60 in southern area, up to 29 in northern area. Control applications generally effective when made on schedule. (Womack).

TENNESSEE - Boll weevil first-generation "hatchout" began in Franklin, Lincoln, and Lawrence Counties. Punctured squares ranged 10-60 percent in fields surveyed. (Cagle). Counts generally heavier in western area than last period. Punctured squares ranged 8-20 percent in Henderson County, 1-22 percent in southern tier of counties; averaged 11 percent for 42 fields surveyed in area. First-generation weevils continued to "hatchout." Weather conditions very favorable for first-generation weevils; increase in percent of punctured squares expected for next period. (Locke, Patrick). SOUTH CAROLINA - Weevil migration underway, many fields where controls not sustained now blooming in tops. Where growers not on recommended control schedule, damage ranged up to 50 percent square damage. (Sparks). NORTH CAROLINA - "Hatchout" of first-generation from bolls underway in all cotton-growing areas of State. Number of control applications significantly less than expected in Halifax and Northampton County area in view of heavy overwintering population. Natural mortality holding population in check in many fields. (Worley).

BOLLWORMS (Heliothis spp.) - SOUTH CAROLINA - Light trap catches of H. zea (bollworm) and H. virescens (tobacco budworm) moths peaked. Eggs ranged up to 80-90 per 100 terminals examined; new larvae ranged up to 40-50 per 100 plants. Growers alerted to this expected buildup 7-10 days ago. Some difficulty in control experienced due to frequent showers. (Sparks). TENNESSEE - Heliothis spp. larvae ranged 1-2 per 100 squares in central area. (Cagle). Damaged squares observed in many western area fields, but larval counts very light. Larval "hatchout" expected in next 10-14 days. (Locke, Patrick). GEORGIA - Egg laying increased throughout southern area, light in northern area. Some difficulty with control experienced in southern area. (Womack).

ALABAMA - Heliothis spp. moth flights increased but spotty and varied widely throughout State. Egg counts ranged 50-100 per 100 terminals in many fields in Wilcox and Lowndes Counties. Larvae generally under control with next 10 days being critical period for maintaining controls. (Smith et al.). MISSISSIPPI - Egg counts increased over State. Large number of fields on 5-day control program. Egg counts ranged from 3.7 percent in Coahoma, Tallahatchie, and Quitman Counties to high of 15 percent in Noxubee County. Larvae ranged 1-2 percent in these areas. Damaged squares averaged less than one percent. (Oakman, Robinson). ARKANSAS - Infestations continued quite variable over State. Significant increase occurred in upper Arkansas River Valley. Moths taken in blacklight traps quite variable with some areas showing increase. Moths observed on

sugar lines rather limited. Numbers generally light for areas reporting. Species determinations as follows by county: Desha, 7 Heliothis zea (bollworm), 3 H. virescens (tobacco budworm); Chicot, 89 H. zea, 7 H. virescens; Jefferson, 21 H. zea, and 3 H. virescens. (Wall, Burleigh).

OKLAHOMA - Heliothis spp. eggs ranged up to 34 per 100 terminals and damage averaged 11 percent in Jackson County; eggs averaged 6 and larvae 7 per 100 terminals in Greer County; eggs averaged 1 or 2 per 100 terminals in Kiowa County; eggs averaged 12 and larvae 10 per 100 terminals and damage 28 percent in Tillman County; eggs averaged 9 and larvae 10 per 100 terminals in Harmon County. Eggs and larvae heavy in some Caddo County fields; few H. virescens found. H. zea larvae ranged 1-2 per 100 terminals in Grady County. In Muskogee and Wagoner Counties damaged terminals ranged 2-19 percent; eggs ranged 0-18 per 100 terminals, larvae 0-23. Eggs ranged 4-8 and larvae 0-23 per 100 terminals in McCurtain County. (Okla. Coop. Sur.).

TEXAS - H. zea and H. virescens continued to increase in lush, green cotton in Rio Grande Valley. Insecticide treatments resulted in 70-90 percent reduction in population. In fields where 70 percent of larvae killed much economic damage resulted. More than 95 percent of larvae checked were H. virescens. Damaged fruit counts generally 0-30 percent. Egg laying heavy, consistently ranged above 50 eggs per 100 plant terminals especially on lush, green cotton. (Parker, Deer). NEW MEXICO - H. zea egg counts ranged up to 11 per 100 plants in Dona Ana County. Larval activity in squares increased up to 8 per 100 plants counted. Light trap counts also increased. Average counts of one larva per 30 plants observed at Artesia, Eddy County. (N.M. Coop. Rpt.). ARIZONA - H. virescens larvae light in Maricopa, Pinal, and Yuma Counties. Growers advised to watch closely. (Ariz. Coop. Sur.).

BANDEDWING WHITEFLY (Trialeurodes abutilonea) - ALABAMA - Adults increased throughout State. Clustering on top leaves of plants in some fields in Cherokee and Russell Counties. Infestations throughout State heavier than any previous year on this date. (Smith et al.).

TOBACCO

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - KENTUCKY - Populations much lighter than usual for time of year. Beetles ranged 2-3 per leaf; however, some high counts of 6.2 and 5.2 recorded in Nicholas and Robertson Counties, respectively. (Barnett).

GREEN PEACH APHID (Myzus persicae) - KENTUCKY - Populations heavier than normal, averaged 500+ per tobacco plant. Infestations general, not confined to tops of plants; 3-4 alate forms found per plant. (Barnett).

MISCELLANEOUS FIELD CROPS

VARIEGATED CUTWORM (Peridroma saucia) - OREGON - Larvae present in 200-300 acres of peppermint north of Albany, Linn County. In one sampled field, larvae averaged 5-6 per 2 square feet. (Collins).

POTATOES, TOMATOES, PEPPERS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - NEW JERSEY - Began to increase in central area potato plantings. (Ins.-Dis. Newsltr.).

MARGINED BLISTER BEETLE (Epicauta pestifera) - INDIANA - Adults heavy on tomatoes in Tippecanoe County. (Sillings).

GREEN PEACH APHID (Myzus persicae) - MICHIGAN - Continued to build up on potatoes, peppers, and other susceptible crops in Bay County. (Cress).

BEANS AND PEAS

BEAN APHID (Aphis fabae) - OREGON - Colonies general throughout maturing snap bean fields examined in Marion, Polk, and northern Linn Counties where no controls applied. Most colonies small, restricted to foliage; however, some fields contain less than one percent of perepherial plants with heavy nymphal populations on lower stems and maturing beans. (Penrose). WASHINGTON - This aphid and Aphis craccivora (cowpea aphid) heavy in lentil fields near Fairfield, Spokane County, July 19. Some fields will require treatment. (Kelsey et al.).

SOUTHERN GREEN STINK BUG (Nezara virdiula) - ALABAMA - Adults and nymphs building up to heavy levels and damaged snap and lima beans in commercial and home garden plantings in Houston County. Observations indicate pest heavier and more widespread than most years. Population expected to increase with favorable host plants available and be problem on soybeans and pecans in area. (Stephenson et al.).

VARIEGATED CUTWORM (Peridroma saucia) - OREGON - Heavy feeding damage to beans noted in one section of 45-acre planting of snap beans north of Salem, Marion County. Cannery figures indicated about 25 percent (121,300+ pounds) of harvested beans culled over entire field due to damage. Subsequent examination of 10 fields in Marion, Polk, and northern Linn Counties revealed only small and localized infestations at three locations. Cutworm damage in these plantings appeared negligible. (Penrose).

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata undecimpunctata) - OREGON - Beetles ranged 4-6 per 25 sweeps over 500 acres of bush beans in western Washington County during period July 8-20. These counts much lower than previous years. Secondary controls for beetle being instituted along with primary disease prevention programs for white mold control. (Collins).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - INDIANA - Infested snap beans at several locations in northern tier of counties. (Sillings). Heavy on beans in Lawrence County. (Matthew).

GENERAL VEGETABLES

CABBAGE MAGGOT (Hylemya brassicae) - NEW YORK - Flies in traps peaked July 12-15 in Geneva area, Ontario County; trap counts declining as of July 22. Third generation anticipated in mid-August. (Eckenrode, Vea).

ONION MAGGOT (Hylemya antiqua) - NEW YORK - Second-generation flies peaked July 11-15 in three Upstate locations; declining as of July 22. Third emergence expected during first half of September. (Eckenrode, Vea).

CABBAGE LOOPER (Trichoplusia ni) - MAINE - Appeared at South Paris, Oxford County, light traps. Expect population increase next few days. (Gall).

HAWAII INSECT REPORT

New State Records - Seven adults of a COCCINELLID BEETLE (Brumoides suturalis (F.)) collected along roadside grasses at Hickam Air Force Base, Honolulu, Oahu, June 21, 1974, by R. Mau and E. Shiroma. This lady beetle is native to Southeast Asia. Determined by R.D. Gordon. (Funasaki). This is a new United States record, but B. suturalis is not known to occur in the continental U.S. (PPQ).

Five adult female specimens of a MANTID (Brunneria borealis) collected in Manoa area of Honolulu, Oahu. First specimen of this wingless praying mantis collected at large September 14, 1973, at University of Hawaii quary by L. Kaichi; 4 other specimens collected at Waahila Ridge during period April through July 1974 by D. Tsuda, R. Ito, and two entomology students. Only females of this species are known; reproduction is parthenogenetically. B. borealis occurs from North Carolina to Texas. Determined by A.B. Gurney. (Mau). Two adults of a CERAMBYCID BEETLE (Semanotus amethystinus) found June 6, 1974, by B. Blackwell in home built with cedar wood in Wailua, Kauai. Two additional specimens found in same home June 24, 1974, by D. Sugawa. This insect occurs along the Pacific coast of North America; hosts are various species of cedar. Determined by T.J. Spilman. (Funaski).

Forest - Moderate, sporadic larval and adult infestations of a BARK BEETLE (Xylosandrus compactus) noted on Melochia umbrellata in Waiakea Forest Reserve, Hilo, Hawaii Island. Terminal dieback and browning of leaves very noticeable. (Davis).

Fruits and Ornamentals - All stages of ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) ranged light to moderate on roses in Waikiki, Kapahulu, Kaimuki, St. Louis Heights, Palolo, and Moiliili areas of Honolulu, Oahu. Roses appear to be dominant hosts in areas surveyed. Scattered, light to moderate infestations noted on Citrus spp., Bartlett pear, and grape in Kaimuki area. Surveys being conducted in commercial rose plantings and other areas to determine extent of distribution. No infestation found in 9-acre rose planting in Waianae. (Shiroma et al.).

Beneficial Insects - Larvae of MELASTOMA BORER (Selca brunella) caused moderate damage to young melastoma terminals in Waiakea Forest Reserve, Hilo, Hawaii Island; larvae also heavy on flower buds. (Yoshioka).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - OHIO - Second-generation moths emerged in Wayne County apple orchards. Moths heavy in blacklight traps. (Hall).

WOOLLY APPLE APHID (Eriosoma lanigerum) - KENTUCKY - Heavy on Warren County apple trees; prevalent in southern area. (Barnett, Driskill). NEW MEXICO - Very active on apples near Las Cruces, Dona Ana County, especially on untreated trees. (N.M. Coop. Rpt.).

PEAR PSYLLA (Psylla pyricola) - MICHIGAN - Very active in pear orchards. Must be controlled to prevent sooty blotch on fruit. (Olsen).

APPLE MAGGOT (Rhagoletis pomonella) - VERMONT - Emergence light to date, but growers should maintain schedules for protection. (MacCollom).

MCDANIEL SPIDER MITE (Tetranychus mcdanieli) - NEW MEXICO - Active on apples in Hondo area of Lincoln County. Some activity reported from Farmington area, San Juan County. (N.M. Coop. Rpt.). WASHINGTON - Light to moderate in apple orchards throughout Bench area of Othello in Grant and Adams Counties and in Greenbluff area of Spokane County. (Bosley et al.).

EUROPEAN RED MITE (Panonychus ulmi) - NEW JERSEY - Becoming easy to find throughout State. Hot, dry weather seems to accelerate problem. Chemical treatments satisfactory in problem blocks. (Ins.-Dis. Newsltr.). OHIO - Averaged 30 per leaf on unsprayed Cortland and Red Delicious cultivars in Wayne County. (Hall). WASHINGTON - Moderate in several apple orchards in Bench area of Othello in Grant and Adams Counties. Found on occasional trees in apple orchards at Greenbluff, Spokane County. (Bosley et al.).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Damage to pecan foliage noted in Baylor, Wichita, Clay, and Young Counties. Only light infestations noted in most central area counties this season. Most infestations ranged 0-2 webs per tree. (Boring, Green).

FILBERTWORM (Melissopus latiferreanus) - OREGON - Trap catches at Pleasant Hill, Lane County, heaviest in several years. Counts indicate first peak flight occurred July 17-18 when 103 moths taken. (Tinker).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - First adult emergence of season noted in Love County. (Okla. Coop. Sur.).

WALNUT HUSK FLY (Rhagoletis completa) - OREGON - First adults (4) from Lane County taken in 2 Frick traps in Glenwood area walnut orchards July 25. (Hatch).

PECAN SPITTLEBUG (Clastoptera achatina) - MISSISSIPPI - Froth noted in all trees of 20-tree pecan orchard in Monroe County. Up to 25 percent of terminals of individual trees infested. (Robinson).

YELLOW PECAN APHIDS (Monellia spp.) - TEXAS - Moderate to heavy in Baylor, Wichita, and Young Counties. (Boring).

A SPIDER MITE (Eotetranychus hicoriae) - MISSISSIPPI - Light to moderate on pecans in Coahoma County. Some leaf scorching and defoliation reported. Determined by R.E. Furr. (Robinson).

ORNAMENTALS

A NOTODONTID MOTH (Datana major) - SOUTH CAROLINA - Larvae found on azalea in Dillon County July 23, 1974, by R.C. DuBose. This is a new county record. (McCaskill).

TWOLINED SPITTLEBUG (Prosapia bicincta) - SOUTH CAROLINA - Caused light damage to several ornamental varieties at nursery in Oconee County July 21, 1974. This is a new county record. (McCaskill).

AZALEA LACE BUG (Stephanitis pyrioides) - SOUTH CAROLINA - Damaged azaleas at several nurseries in Lexington and Richland Counties. Collected July 19, 1974, by W.K. Glenn. Controls applied. These are new county records. (McCaskill).

AN APHID (Hyadaphis foeniculi) - TENNESSEE - Collected from honeysuckle in Franklin County May 18, 1974, by J. Cagle and D. Shadow. Determined by L.M. Russell. This is a new State record. (Gordon).

AN APHID (Myzocallis tectae) - MARYLAND - Very heavy on terminals of bamboo at home in Prince Georges County. Collected June 20, 1974, by J.W. Gentry. Determined by L.M. Russell. This is a new State record. (Gentry).

FOREST AND SHADE TREES

SPRUCE BUDWORM (Choristoneura fumiferana) - MAINE - Moth flights occurred as expected but much heavier than anticipated. Moths very heavy night of July 14; gathered near roads and lights where "piles" found morning of July 15. Road from Allagash to Fort Kent literally "paved" with moths. Also reported heavy at Portage, Caribou, and Presque Isle. Moth flight appeared to precede storm front from northwest. Moths heavy July 15 in central and north-central areas of State. Egg masses observed everywhere; mini-infestations may appear in 1975. Several minor flights also observed. (Gall). PENNSYLVANIA - Adults found on hemlock and spruce July 22. This pest appeared in heavy numbers in Centre, Armstrong, Butler, Green, Allegheny, Venango, Beaver, Mercer, Lawrence, Crawford, Clarion, Forest, Warren, McKean, Erie, and Washington Counties. Larvae seen this year in Clearfield and Jefferson Counties on hemlock. (Adams). See CEIR 24(30):580 for reports from Michigan, Ohio, and New York. (PPQ).

REDHEADED PINE SAWFLY (Neodiprion lecontei) - MICHIGAN - Heavy in young jack pine stand at Kalkaska, Kalkaska County. (Mosher).

YELLOWHEADED SPRUCE SAWFLY (Pikonema alaskensis) - MAINE - Seems heavy although infestations light. Species can be very damaging, especially in spruce plantations. Cocoons noted in some infestations. (Gall).

FALL WEBWORM (Hyphantria cunea) - VERMONT - Webs expected soon. (MacCollom). NEW HAMPSHIRE - Larvae in second instar. Webs noted on lilac and other hosts at Lee, Strafford County. (Blickle).

WHITEMARKED TUSSOCK MOTH (Hemerocampa leucostigma) - MAINE - Second and third-instar larvae noticeable on several tree species, especially willows, at Old Town, Penobscot County. (Gall).

LARGE ASPEN TORTRIX (Choristoneura conflictana) - NEW MEXICO - Defoliated aspen in Tesuque unit of Santa Fe National Forest. Pest apparently increasing range. (N.M. Coop. Rpt.).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - MISSOURI - Still heavy in east-central and south-central areas. (Munson).

PERIODICAL CICADAS (Magicicada spp.) - INDIANA - "Flagging" as result of oviposition by adults in Harrison, Crawford, and Perry Counties. (Sproat). MASSACHUSETTS - M. septendecim oviposition damage in certain areas of Barnstable and Plymouth Counties near 30+ percent in upper parts of many trees. (Tomlinson, Mankowsky).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 169 cases reported from continental U.S. during period July 7-13 as follows: Texas 159, New Mexico 5, Arizona 4. Total of 178 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 192,341,400 as follows: Texas 165,917,400; New Mexico 3,861,000; Arizona 19,935,000; California 2,628,000. Total of 27,760,000 sterile flies released in Mexico. (Anim. Health).

HORN FLY (Haematobia irritans) - MISSISSIPPI - Averaged 500+ per beef animal in Monroe County, 200+ in Pearl River, Lauderdale, Jones, Newton, Neshoba, and Winston Counties. (Combs, Robinson). TENNESSEE - Ranged 25-50 per head on cattle checked in Giles County. (Watson). KENTUCKY - Ranged 300-400 per beef animal at various locations in Fayette County. (Barnett, Herald). IOWA - Ranged 20-140 (average 70) per head on untreated Story County cattle herd. (Iowa Ins. Sur.). ILLINOIS - Sharp increase observed on cattle in pastures. Averaged 100 per head in some herds. (Sur. Bull.). NEBRASKA - Decreased on cattle to average of about 400 per head in Arthur, Lincoln, and McPherson Counties. (Campbell). OKLAHOMA - Averaged 100 per head on cows and 1,000 per head on bulls in Payne County. (Okla. Coop. Sur.). NEW MEXICO - Continued to increase, ranged 250-300 per head on bulls near Dexter, Eddy County. (N.M. Coop. Rpt.). UTAH - Troublesome on cattle in Weber County. (Rogers).

FACE FLY (Musca autumnalis) - ALABAMA - Ranged 2-3 per face on 50+ beef animals at Waverly, Lee County. Collected by K. Hayes. Determined by H. Cunningham and K. Hayes. This is a new county record, and first report of infestation south of Birmingham, Jefferson County. (McQueen). MISSISSIPPI - Ranged up to 60 (average 25) per face on beef cattle in Monroe County. (Robinson). TENNESSEE - Ranged 5-15 per head on cattle checked in Giles County. Survey negative in Shelby and Tipton Counties. (Watson, Swindol). KENTUCKY - Averaged 17.5 per beef animal at various locations in Fayette County. (Barnett, Herald). OHIO - Populations at or near peak levels throughout most of State. In at least 40-50 counties, 35+ per face noted on beef or dairy herds. (Fox et al.).

ILLINOIS - Face fly increased sharply on pastured cattle; averaged 30 per animal in one herd. (Sur. Bull.). WISCONSIN - Counts and annoyance heavy on Calumet County dairy cattle. Moderate in Polk

County; slight problem reported in other counties. (Wis. Ins. Sur.). IOWA - Ranged 2-20 (average 10) per head on untreated Story County cattle. This is increase from previous week. (Iowa Ins. Sur.). NEBRASKA - Ranged 8-10 per face on untreated cattle in canyon and river bottom pastures in Lincoln, Arthur, and McPherson Counties. (Campbell).

HOUSE FLY (Musca domestica) - MAINE - Severely infested area around hen farm at St. Albans, Somerset County. Resting on sunny areas and invading homes; manure is problem. (Gall).

STABLE FLY (Stomoxys calcitrans) - ILLINOIS - Sharp increase noted on pastured cattle. Averaged 40 per head in one herd. (Sur. Bull.) WISCONSIN - Annoyance to cattle severe in Calumet and Polk Counties, light in Outagamie County. Moderate on dairy cattle in other counties. (Wis. Ins. Sur.). NEBRASKA - Decreased in feedlots; ranged 3-4 per leg on cattle in Arthur, Lincoln, and McPherson Counties. (Campbell). OKLAHOMA - Ranged 25-50 per head on cattle checked in Wagoner County; averaged 2 per head in Muskogee County, one per head in Payne County. (Okla. Coop. Sur.).

MOSQUITOES - MASSACHUSETTS - Aedes canadensis, A. vexans, Aedes sp., and Coquillettidia perturbans taken in bite collections July 21. In light trap collections on same date, 5 species of Aedes, with A. vexans predominant, taken; Anopheles punctipennis, Culex pipiens, C. salinarius, Culiseta impatiens, and Coquillettidia perturbans also taken. (Branch, Drozdowski). OHIO - Twenty miniature blacklight traps operated in central Franklin County during July 24-25 collected 720 mosquitoes, primarily Aedes vexans, A. trivittatus, Culex pipiens, and Anopheles punctipennis. (Ohio Dept. Health). KENTUCKY - Increasing populations of Anopheles quadrimaculatus around northern end of Kentucky Lake now appear to have decreased. About 1,035 acres treated with larvacide, July 8, 11, and 12. (Barnett, Christiansen).

AMERICAN DOG TICK (Dermacentor variabilis) - CALIFORNIA - Occurrence in El Dorado County area unusually heavy and persisted late in season. Rains July 8-12 apparently activated ticks by July 14. (Cal. Coop. Rpt.).

BENEFICIAL INSECTS

A CHRYSOMELID BEETLE (Agasicles hygrophila) - FLORIDA - Adults and larvae heavily infested leaves of all 30 plants of alligator weed, Alternanthera philoxeroides, examined at aquatic nursery in Tampa, Hillsborough County, July 17. This species introduced from Argentina to control alligator weed. (Fla. Coop. Sur.).

ALKALI BEE (Nomia melanderi) - WASHINGTON - Sampling of 7 bee beds at Touchet, Walla Walla County, showed average of 6 percent eggs, 20 percent larvae, and 74 percent prepupae July 23-24. Average of molded pollen balls 20 percent (range 10-43 percent). (Johansen, Mayer).

A PHYTOSEIID MITE (Metaseiulus occidentalis) - WASHINGTON - This predatory species moderate on Panonychus ulmi (European red mite) infested apple trees in Othello area of Grant and Adams Counties. Moderate to heavy on apple leaves at orchard near Greenbluff, Spokane County; this orchard managed under mulch culture for

several years. M. occidentalis light in orchard where semi-sod mulch culture installed this season. None found at 2 orchards where disked dust mulch culture used. (Bosley et al.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

EUROPEAN CRANE FLY (Tipula paludosa) - WASHINGTON - Larvae fed on foliage of corn and potatoes, and underground stems of potato, in Lynden and Sumas area of Whatcom County. Damage negligible July 16. (Campbell).

GRASSHOPPERS - SOUTH DAKOTA - Quite heavy in some areas and will present problem on winter wheat field borders this fall. (Walgenbach et al.). IDAHO - Populations in most rangeland areas ranged 2-5 per square yard but some areas noted with 40-60 per square yard at Reynolds Creek, Owyhee County. (Baird). WASHINGTON - Mixed populations ranged moderate to heavy in bluegrass seed fields in foothills area northeast of Spokane, Spokane County. In field of Adelphi variety, late hatch of Camnula spp., mainly first and second instars, averaged about 225 per square yard. (Oetting, Harwood).

MORMON CRICKET (Anabrus simplex) - WASHINGTON - Adults averaged 4 per square yard on about 1,000 acres of rangeland west of Nespelem on Colville Indian Reservation, Okanogan County. This is first confirmed finding of this species from county in many years. (Goebel, Wither).

GYPSY MOTH (Porthetria dispar) - OHIO - Three male moths taken in pheromone traps at Wright Brothers Memorial Park at Dayton, Greene County, July 18 and 19. This is same location where single male moth captured in 1973. Preliminary scouting revealed no additional specimens. Area will be closely monitored for next few weeks. (Roach).

JAPANESE BEETLE (Popillia japonica) - VERMONT - Adults prevalent on raspberry. (MacCollom). NEW JERSEY - Unusually heavy in some areas. (Ins.-Dis. Newsltr.). PENNSYLVANIA - Adults totaled 20 per 105 sweeps of alfalfa in Allentown, Lehigh County, July 19; damage one percent. (Godshall).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Some rosetted cotton blooms and infested bolls found at Casa Grande, Pinal County. Infestations ranged 0-20 percent at Yuma. Average boll infestations 3 percent in Yuma County. Second-generation population insignificant at Marana, Pima County. Treatments not expected to be necessary until third generation in August. Many growers on regular treatment program in Maricopa, Pinal, and Yuma Counties. (Ariz. Coop. Sur.).

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Egg hatch light and scattered on rangeland at junction of U.S. Highway 285 and State Highway 42 in De Baca County. Larval counts up to 3 per square yard along State Highway 42 in Lincoln County from De Baca County line west for about 20 miles. Larvae in second and third instars in these areas. Egg hatch observed in all areas of these counties where pest previously known. (N.M. Coop. Rpt.).

WESTERN GRAPELEAF SKELETONIZER (Harrisina brillians) - CALIFORNIA - Live specimen found June 25 outside treatment area along Klamath River in Siskiyou County. New find will not enlarge survey area but will result in slight enlargement of treatment area. Spread attributed to faulty control application. Pest primarily in pupal stage (86 percent) at San Jose, Santa Clara County. Parasitism by Apanteles harrisinae (a braconid wasp) evident. Individual H. brillians pupae being placed in emergence cages within field cages to determine percent parasitism by each parastic species and number of parasites per pupa. (Cal. Coop. Rpt.).

WHITEFRINGED BEETLES (Graphognathus spp.) - ALABAMA - Adult emergence heavy over widespread area along State Highway 10 in Pike County. Fed on leaves of peas and peanuts. Egg laying probably heavy. (Wilson).

DETECTION

New United States Record - A COCCINELLID BEETLE (Brumoides suturalis) - HAWAII - Oahu Island. (p. 606).

New State Records - AN APHID (Hyadaphis foeniculi) - TENNESSEE - Franklin County. (p. 608). AN APHID (Myzocallis tectae) - MARYLAND - Prince Georges County. (p. 608). A CERAMBYCID BEETLE (Semanotus amethystinus) - HAWAII - Kauai Island. (p. 606). A MANTID (Brunneria borealis) - HAWAII - Oahu Island. (p. 606).

New County Records

A LEAFHOPPER (Helochara communis) - KENTUCKY - Collected in Larue County July 11, 1974, and determined by D.E. Barnett. Confirmed by P.H. Freytag. (Barnett). No host specified. (PPQ).

AZALEA LACE BUG (Stephanitis pyrioides) SOUTH CAROLINA - Lexington, Richland (p. 608). A NOTODONTID MOTH (Datana major) SOUTH CAROLINA - Dillon (p. 608). TWOLINED SPITTLEBUG (Prosapia bicincta) SOUTH CAROLINA - Oconee (p. 608).

CORRECTIONS

CEIR 24(26):491 - DETECTION: New County and Island Records - AZALEA LACE BUG (Stephanitis pyriodes) should read (Stephanitis pyrioides); SQUASH VINE BORER (Metittia cucurbitae) should read (Melittia cucurbitae).

CEIR 24(29):554 - Line 5: Agenotettix deorum should read Ageneotettix decorum.

CEIR 24(30):582 - TICKS - CALIFORNIA - Delete note. Ornithodoros coriaceus was not collected in California, but in Nevada. (Cal. Coop. Rpt.).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege sticticalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Paridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARIZONA																							
Mesa 7/15-21			BL	3		9			18						6		3		1872		41	79	
FLORIDA																							
Gainesville 7/19-25			BL				7	2	17						1				1	6	4		
INDIANA (Districts)																							
South West 7/12-18			2BL	10										1	4	9	16	29					
West Central 7/12-18			2BL	55										3			33	48					
IOWA																							
Beaconsfield 7/14-20			BL	79			4									18	30	50					
Gilbert 7/14-20			BL	144			34									18	97	197					
KANSAS																							
Great Bend 7/17-23			BL	3			52										7	21			12		
Tribune 7/15, 18, 22			BL				61																
KENTUCKY																							
Lexington 7/22-26			BL	2														38			3		
MICHIGAN (Counties)																							
Lenawee 7/16-22			BL	129												2	105	221					
Oceana 7/16-22			BL	38													47	93					
NEBRASKA																							
Clay Center 7/24			BL	3			23							1		54	8	26					
North Platte 7/25			BL	1										2		4		8					
NEW JERSEY																							
Seabrook 7/17-23			7BL	8					2							5							
Vineland 7/17-23			7BL	3					3							14							
NEW MEXICO																							
Las Cruces 7/19-26			4BL						23					37	14							8	
OHIO																							
Wooster 7/20-26			3BL	282			3									3	45	235			2		

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight; I = incandescent; MV = mercury vapor; O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (salt marsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Mandula quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
OREGON (Counties)																							
Linn 7/18-24			BL	1																			
Marion 7/18-24			BL	1													3						
PENNSYLVANIA (Districts)																							
Central 7/14-23			BL	75												2	1	82			7		
North East 7/14-23			BL													13		4					
SOUTH DAKOTA																							
Brookings 7/18-24			BL	39			29									108	17	230					
TENNESSEE (Counties)																							
Hardeman 7/22-26			BL	20				20		2				3			2	8			34	4	
Madison 7/22-26			BL	4				3								3		9			19	3	
VIRGINIA																							
Blacksburg 7/19, 24			BL	3											1			17					
WISCONSIN																							
Hancock 7/18-22			BL												6		1	2					
Mazomanie 7/18-24			BL	1											3		3	8					

WEATHER OF THE WEEK ENDING JULY 29

Reprinted from Weekly Weather and Crop Bulletin supplied by Environmental Data Service, NOAA.

HIGHLIGHTS: Most of the Nation east of the Rocky Mountains received some precipitation last week. Some much needed moisture fell in North Dakota, Nebraska, eastern Iowa, and Illinois. Good rains of 1 inch to over 4.50 inches fell in many parts of the Deep South and Southeast including most of Florida. Isolated heavy showers were also reported in sections of New York, Pennyslvania, and Virginia. Temperatures averaged near normal or above across much of the western two-thirds of the Nation. These above-normal temperatures in the Midwest, coupled with low soil moisture, continued to stress row crops. However, thermometer readings fell below normal throughout the Nation's eastern third with sections of the New England seaboard averaging as much as 6 degrees below normal.

PRECIPITATION: Sections of the South received heavy rains while locally heavy showers were scattered throughout the Midwest and North Atlantic States. Weekly totals included: Little Rock, Arkansas, 3.43 inches; Tallahasse, Florida, 4.85 inches; Norfolk, Virginia, 3.90 inches; Syracuse, New York, 2.43 inches; Green Bay, Wisconsin, 3 inches; and Waterloo, Iowa, 2 inches. Sections of the Rocky Mountain and Pacific States received little or no precipitation during the week. Monday, two cold fronts triggered thunderstorms in the central United States from Lower Michigan to eastern Colorado where 2 inches of rain fell at Byers in 1 hour and heavy rains caused flooding and closing of Interstate Route 70 in the Denver area. Later in the day, hail and gusty winds accompanied thunderstorms moving through the lower Mississippi Valley, the Tennessee Valley, and the Gulf Coast States. Heavy thunderstorms with high wind gusts over 50 m.p.h. swept through parts of southern California on Tuesday. Over 1 inch of rain fell at China Lake while wind damage and flooding were reported at Ridgecrest. During the evening, thunderstorms moved across parts of South Dakota and Minnesota producing rain, hail, and a few tornadoes. Wednesday, thunderstorms also brought heavy rain to the lower Mississippi Valley. Both Magnolia, Arkansas, and Shreveport, Louisiana, received 3 inches of rain. A cold frontal system produced thunderstorms across Nebraska, South Dakota, and northern Kansas. This was the first rain in several weeks for parts of the upper Plains. Thursday, a front touched off thundershowers from Minnesota to the Texas Panhandle and into Colorado. Storms dumped nearly 3 inches of rain on Huntsville, Alabama, Friday, while Muscle Shoals, Alabama, got more than 1 inch. Heavy rains were reported in southeast Virginia where Norfolk recorded nearly 3.50 inches of rain in 6 hours. Oceana, Virginia, got almost 3 inches while Hampton reported nearly 2 inches. Saturday, thunderstorms continued in the Southeastern States although rainfall was generally light with only a few stations reporting locally heavy amounts. Tuscaloosa, Alabama, and Anderson, South Carolina, measured over 1.25 inches by early afternoon. Before dawn on Sunday, two thunderstorms dumped 1.50 inches of rain on Syracuse, New York, making this city's wettest July on record with little over 7 inches for the month. Elsewhere, the scattered thundershowers extended from New England to the eastern gulf coast.

TEMPERATURE: While many States in the Nation's eastern half reported temperatures averaging 1-6 degrees below normal, the West recorded temperatures near normal or above. Parts of Nebraska, Iowa, New Mexico, and Texas averaged as much as 5 degrees above normal while California's Imperial Valley averaged 6-8 degrees above normal for the week. Early in the week, thunderstorms brought some relief to a 5-day heat wave of 100-degree plus temperatures into the central Plains. Monday, record lows were set at Concord, New Hampshire, 42 degrees, and Raleigh, North Carolina, 55 degrees. Later, bright sunshine brought 100-degree temperatures to parts of Oklahoma, Texas, Kansas, Arkansas and Missouri. In many parts of Texas and Oklahoma, the mercury climbed above the century mark on Tuesday. Lubbock, Texas, set a record for the day with 101 degrees, while Wichita Falls, Texas, climbed to a new record and claimed the hottest spot in the Nation with 110 degrees. Wednesday, a High pressure area settled over north-central California causing hot temperatures and light winds. The mercury climbed above the century mark over much of interior and southern California. The system also produced air pollution problems in sheltered coastal areas and valleys. Thursday, temperatures in the 90's were common in the Gulf States, Plains, and Southwestern States with some places over 100 degrees from western Texas to the interior of California. High humidity prevalied across the southeastern quarter of the country, but pleasant dry temperatures in the 70's were enjoyed from the Great Lakes region to the north Atlantic coast. Friday, temperatures were typical of midsummer around most of the Nation with high's reaching the 80's and 90's. High temperatures reached the 80's in the Eastern United States Saturday except for the New England States where temperatures stayed in the 70's. A few places along the Oregon and northern California coast held in the 50's and 60's. Elsewhere, the 90's were common in the Plains and Plateau region and through the Rockies and lower half of the Mississippi Valley. Sunday, a cold front moving through the Midwest brought some relief from the persistant heat of the past several weeks. High temperatures were again above 100 degrees in the southern half of the Plains and mostly in the 70's and 80's in the North Central States.

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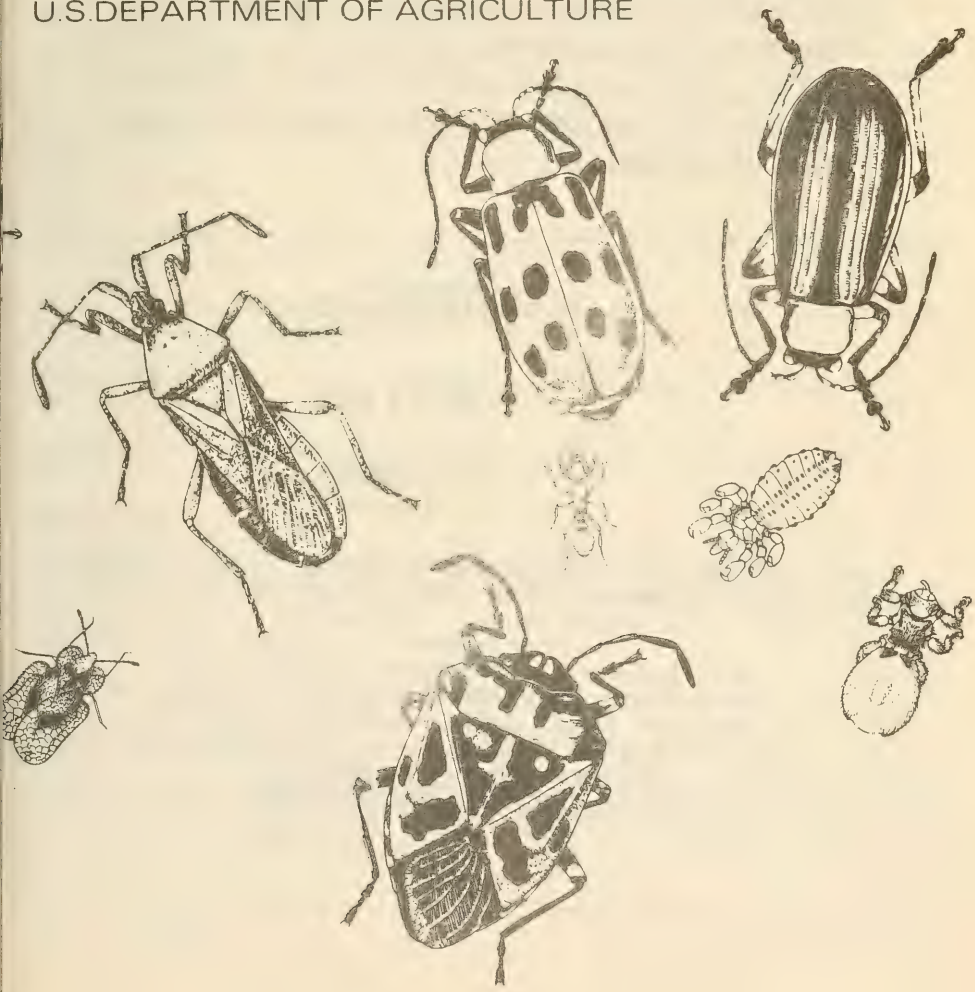

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 24 August 9, 1974 Number 32

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

GREENBUG continued to increase in east-central New Mexico, reached damaging levels on corn and sorghum in Texas Panhandle; increased in northwest and west-central Kansas and southeast Nebraska. POTATO LEAFHOPPER heavy in alfalfa in northwest, north-central, and northeast Indiana, very heavy in potatoes in Upper Michigan, some yellowing of alfalfa evident in south-central Wisconsin. SPOTTED ALFALFA APHID serious in alfalfa in west-central Utah. (pp. 620-622).

WESTERN CORN ROOTWORM adults more common in northern Indiana corn than previously observed; heavy in northwest and west-central Missouri. (pp. 622-623). EUROPEAN CORN BORER second moth flight underway in Wisconsin, Illinois, and Ohio; pepper growers in Ohio alerted to initiate spray programs. (pp. 624, 629).

PEA APHID very heavy and required control on alfalfa in west-central Utah, increased in alfalfa and peas in Wisconsin. (pp. 622, 630).

THREECORNERED ALFALFA HOPPER caused economic damage to soybeans for first time in South Carolina. (p. 626).

Damage by BOLL WEEVIL and BOLLWORMS continued in several cotton-growing States. (pp. 626-628).

GREEN PEACH APHID heavy on tobacco in Virginia and Kentucky. (p. 629).

SOUTHERN PINE BEETLE infestation and damage to pines increased in North Carolina. (p. 632).

Detection

New State records include an ADELGID in New Jersey (p. 633), ASIATIC OAK WEEVIL in Kansas (p. 633), EUROPEAN ALFALFA BEETLE in Ohio (p. 625), a TENEBRIONID in West Virginia (p. 633), and WESTERN CORN ROOTWORM in Ohio (p. 622).

For new county and island records see page 636.

Special Reports

A New Species of *Procecidochares* (Diptera: Tephritidae) Causing Galls on Stems of Hamakua Pamakani (*Ageratina riparia*: Asteraceae) in Hawaii. (pp. 639-641).

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WEATHER OF THE ENDING AUGUST 5

Peprinted from Weekly Weather and Crop Bulletin supplied by Environmental Data Service, NOAA.

HIGHLIGHTS: Precipitation in varying amounts fell across most of the Nation east of the Rocky Mountains. Some much needed rain fell over critically dry areas of the Corn Belt. Nearly 2 inches were recorded at Sioux Falls, Iowa, and Grand Island, Nebraska. Further south, rainshowers were reported over drought striken areas of west Texas with almost 1.80 inches at San Angelo. Temperatures were below normal across much of the Nation. The Far West, portions of New England, and the mid-Atlantic seaboard areas reported **temperatures near normal or above.** Below normal temperature were reported throughout the Corn Belt States averaging as much as 9-10 degrees below normal in Iowa and southeastern Nebraska. Cool temperatures greatly reduced moisture requirements in this very dry area.

PRECIPITATION: Good rains, measuring over 3 inches, soaked sections of New York, Ohio, Pennsylvania. and east Texas along with as much as 5 inches reported in **North Carolina,** Michigan, and the Florida Peninsula. Isolated heavy showers were reported in sections of the Midwest, Northern and Mid-Atlantic States, and the Gulf Coast States. In the Desert Southwest 2 inches were reported at Flagstaff, Arizona. Portions of the Far West received little or no precipitation during the week. Monday, a cold front trailing from the central Great Lakes into the Texas Panhandle triggered scattered thundershowers from northwest Texas into Kansas and western Missouri. Tuesday, a cold front stretching across the Atlantic and Gulf Coast States into southern Texas produced thundershowers from southwestern Texas into the central Gulf Coast States and rain along with fog in eastern New England. Wednesday, a Low in western Nebraska brought welcome showers to South Dakota, Nebraska, and Iowa although precipitation was not enough to affect the

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SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - MINNESOTA - Averaged two per square yard in lodged portion of barley field in Norman County. (Minn. Pest Rpt.). MAINE - Moths heavy in blacklight traps, some larval damage to grass and possibly corn expected soon. Small larval infestation noted earlier at Bradford, Penobscot County; part of first generation. Recent collections were second-generation moths. Partial third generation possible. (Gall).

ASTER LEAFHOPPER (Macrosteles fascifrons) - WISCONSIN - Continued to increase in weeds and crops unaffected directly by yellows disease. Counts in alfalfa, 4-6 per 10 sweeps, not especially heavy but indicate heavy counts are present around State. Populations variable in potatoes and beans; ranged from highs of 4 per sweep in potatoes and one per sweep in snap beans in Portage County to less than 10 per 25 sweeps in potatoes and snap beans in other areas. (Wis. Ins. Sur.).

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Random survey of tomatoes and sugar beets in Sacramento and northern San Joaquin Valleys nearly completed. To date, incidence of curly top found to be less than one percent and leafhopper counts lighter than previous years. At Antelope Valley, Los Angeles County, sugar beets checked near Lancaster showed curly top infection of 5-20 percent. Farmers in area treating weekly; now experiencing lygus bug problems. All thistle plants checked showed adults and nymphs. (Cal. Coop. Rpt.).

CORN EARWORM (Heliothis zea) - MARYLAND - Egg laying continued throughout Eastern Shore. Heaviest moth catches ranged 2-3 per night in Queen Annes, Kent, Caroline, and Talbot Counties. Infested field corn in these areas ranged 2-10 percent damaged ears with young larvae in first and second instars. Populations expected to increase in all areas. Egg laying may be above normal in soybeans this season due to premature drying of corn in drought areas. (U. Md., Ent. Dept.). VIRGINIA - Survey of 30 cornfields (750 ears of corn) in Tidewater region showed 8.6 percent of all ears of field corn infested with larvae. In fields south of James River 10.8 percent of ears infested, about one-fourth as heavy as 1973 (41.3 percent). In middle peninsula, 14 percent of corn infested compared with 39.4 percent in 1973. Infestation in Northern Neck was 1.2 percent of ears opposed to 18.7 percent in 1973. If populations in soybeans correspondingly low, sampling for soybean insects may be especially profitable this year. (Allen).

OKLAHOMA - Corn earworm larvae moderate in sorghum in Wagoner and Coal Counties. Ranged 0-4 per 10 sweeps in Garvin County alfalfa. (Okla. Coop. Sur.). UTAH - Moths averaged 2 per night in blacklight traps at Salt Lake City, Salt Lake County, and Logan, Cache County. (Stephens, Knowlton).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Some scattered heavy infestations still present in sorghum in Caddo and Washita Counties. Heavy in Coal County and moderate in Wagoner County in late-planted fields. Heavy in Canadian County. (Okla. Coop. Sur.). KANSAS - Generally decreasing in sorghum in eastern half of State where lady beetle activity usually heavy in aphid infested fields.

Rhopalosiphum maidis usually light but occasionally heavy in spots in fields surveyed in northwest and west-central districts. (Bell). IOWA - Ranged 50-100 per ear on corn in Worth County; no damage apparent. (DeWitt).

WISCONSIN - Corn leaf aphid very heavy in few cornfields in south-central and central counties. In some fields, colonies of 500+ noted on 30 percent of plants in Waushara, Portage, Marinette, Dane, Jefferson, Columbia, Dodge, Fond du Lac, Winnebago, Outagamie, Waupaca, and Marquette Counties. In many instances pollination complete and silks turning brown; treatment in such fields would not be especially beneficial. Predation by syrphid fly larvae heavy in Waushara County. (Wis. Ins. Sur.). MINNESOTA - Found in most cornfields, but economic only on occasional plant. About one percent of plants had sufficient numbers of aphids to cause upper leaf yellowing and honeydew on tassels. Treatment very seldom warranted, but aphids will interfere with pollination in occasional field. (Minn. Pest Rpt.). OHIO - Current hot, dry weather retarding maturation of corn statewide. This allowing establishment of aphid colonies in late-whorl to early tassel corn. R. maidis ranged moderate to heavy on 85 percent of corn plants in one Defiance County planting. Infested 30-50 percent of corn checked in Fulton County. Tassel discoloration and infested ears common in both counties. Damsel bug and lady beetle populations very light, not yet heavy enough to affect aphid populations. (Fox).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Continued to increase as controls failed. Corn silage being cut early in Roosevelt and Curry Counties due to heavy populations. (N.M. Coop. Rpt.). TEXAS - Infestations on corn and sorghum in Lubbock and Crosby Counties spotted to date. Infestations needing control less frequent than previous years. Treatments in area giving no problem in control. Growers having difficulty with control in Lamb, Bailey, Hale, and Swisher Counties. Reached damaging levels over most of area. Many fields in Hale County required 2 treatments to obtain control. Moderate to heavy populations reported on crops in Pecos and Reeves Counties. Isolated fields in Reeves County heavily infested, ranged 2,000-4,000 per plant on 75 percent of plants. Treatments applied. (McIntyre et al.).

OKLAHOMA - Greenbug still heavy in scattered sorghum fields in Caddo and Washita Counties but parasites and predators beginning to decrease population in many older fields. Ranged 10-950 (average 150) per plant on irrigated sorghum in Texas County and 20-30 per plant on dryland sorghum. Ranged 0-400 per plant in one Garvin County field. Light in Canadian County. (Okla. Coop. Sur.). ARKANSAS - Found in only one Pope County field of sorghum. None found in fields surveyed in Conway and Faulkner Counties. Signs of previous light infestations quite common. Aphids had been present but disappeared due to predation and/or possibly disease. (Boyer).

KANSAS - Greenbug infestations in sorghum in northwest and west-central districts increased considerably on average during last 14 days. In fields surveyed in all counties in these districts, greenbugs ranged 300-400 per plant overall compared with 25-100 14 days ago. Heaviest infestations found in eastern counties of northwest district. Indications are some fields treated in Decatur County. Occasionally heavy infestations showing up in Haskell,

Meade, and Stevens Counties, most often in Haskell County; treating continued in these counties. Parasitism still generally light in all western districts but in one field surveyed in Meade County up to 20 percent greenbug parasitism was noted. At least some heavy Rhopalosiphum maidis infestations in sorghum reported in Nemaha, Smith, and Ellis Counties. Parasitism by Lysiphlebus testaceipes (a braconid wasp) seems significant in many cases and on increase in many greenbug infested fields in Nemaha County. For eastern third of State as a whole, greenbug activity in sorghum generally light, as well as for eastern counties of south-central area. (Bell).

NEBRASKA - Greenbug increased or remained unchanged in most milo fields, decreased in some dryland milo fields under severe drought stress. Ranged 0-7,500 (average 454) per plant in 370 Clay County sorghum fields. Of four milo fields in Frontier County, 3 treated and treatment recommended for fourth. Treatment needed in 2 Gosper County milo fields; treatment recommended for 2 of 3 Lincoln County milo fields. (Campbell).

POTATO LEAFHOPPER (Empoasca fabae) - NORTH CAROLINA - Observations along U.S. Highway 64 showed heavy damage in one Martin County peanut field. Collections averaged about 4 per sweep. Ratio of nymphs to adults about 50:50. Untreated fields on sandy soils in northeastern Coastal Plain have chronically had leafhopper problems. In recent years, heavy infestations appeared more frequently further south, particularly on light soils not treated with systemic insecticide at planting. (Hunt). PENNSYLVANIA - Averaged 8 per 10 sweeps of alfalfa July 26 in Delaware County; damage one percent. None found on treated 10 to 15-inch alfalfa in Mercer County same date. Averaged 0.5 adult per sweep in 12 to 14-inch alfalfa in Bradford County. (Godshall et al.).

INDIANA - Potato leafhopper adults ranged 1-3 per sweep in most heavily infested alfalfa in northwest, north-central, and northeast district fields 12-20 inches tall. Adults averaged 5 per plant in field of soybeans in full bloom in Fayette County. Considered economic particularly in view of poor moisture conditions in state. (Edwards). MISSOURI - Light on late soybeans in east-central area. Ranged 2-31 per 10 sweeps. (Munson). MICHIGAN - Present in extremely heavy populations in all Upper Peninsula potato fields inspected. (Cress).

WISCONSIN - Potato leafhopper counts in treated snap beans less than 10 per 25 sweeps and much heavier in untreated garden beans around State. Building up to 2-3 per sweep or more in untreated garden potatoes; generally less than 4 per 25 sweeps in potatoes with supplemental sprays. Alfalfa in most areas about 50 percent cut; thus, increases in beans and potatoes should be apparent next few days. Light in most alfalfa in most areas. Rarely exceeded one per sweep in any area except south-central district where counts averaged 10+ per sweep. In Broadhead area of Rock and Green Counties, ranged 25-55 per sweep with yellowing evident. (Wis. Ins. Sur.). MINNESOTA - Still heavy in occasional east-central area alfalfa field. More nymphs present, exceed adult counts in some instances. Adults ranged up to 600 per 10 sweeps in one Washington County field; nymphs ranged up to 700 per 100 sweeps in another field. Counts per 100 sweeps averaged 170 adults and 200 nymphs in east-central district. In other districts counts averaged lower, 40-50 per 100 sweeps. Some yellowing evident in alfalfa not cut second time. (Minn. Pest Rpt.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEVADA - Ranged 1-3 per sweep at Reese River, Lander County, alfalfa seed fields. (Hilbig). Only occasional specimens found in Schurz, Mineral County, alfalfa hay fields. (Barclay, Bechtel). None observed in Orovada, Humboldt County, alfalfa seed fields. (Hilbig). UTAH - Seriously infested several thousand acres of alfalfa in Deseret, Delta, Oasis, and Sutherland areas of Millard County. (McAllister). KANSAS - Averaged 200 per 10 sweeps in drought stressed alfalfa in Riley County. Alfalfa 8 inches tall. (Bell). OKLAHOMA - Averaged 20 and 250 per 10 sweeps in two alfalfa fields in Garvin County, 400 per 10 sweeps in field in Grady County, 100 per 10 sweeps in Caddo County, and 75 per 10 sweeps in Custer County. (Okla. Coop. Sur.).

TOBACCO BUDWORMS (Heliothis spp.) - TENNESSEE - Based on one-percent plant samples in 10 tobacco fields checked in Trousdale County, Heliothis spp. averaged 200, 161, 25, 33, and 29 per acre in 5 fields. Campoletis perdistinctus (an ichneumon wasp), a parasite of Heliothis spp., ranged from zero to average of 400 per acre in these 10 fields. (Gordon). MARYLAND - H. virescens (tobacco budworm) populations and damage levels in southern area tobacco well below 1973 record high. Damaged plant counts in heaviest infested field ranged 5-10 percent. (U. Md., Ent. Dept.).

TOBACCO HORNWORM (Manduca sexta) - TENNESSEE - Based on one-percent plant sample, 5 of 12 tobacco fields surveyed found infested. Counts in 2 of 5 infested fields at or above control levels. However, larvae small and parasites very active in these fields. (Gordon). VIRGINIA - This species and Heliothis virescens (tobacco budworm) light on tobacco at Chatham, Pittsylvania County; ranged 1-3 larvae per 100 plants July 31. (Roberts, Surles).

CORN, SORGHUM, SUGARCANE

WESTERN CORN ROOTWORM (Diabrotica virgifera) - OHIO - Established population found in corn planting in vicinity of Hicksville, Defiance County, July 30; adults ranged 1-4 per plant on about 25 percent of plants. This is a new State record. Single adult detected on 100 corn plants examined in western Fulton County July 31. This is a new county record. Collected and determined by P.R. Fox. Confirmed by C.A. Triplehorn. (Fox). MICHIGAN - Adults collected from corn by T. Montei and L. Verwey July 29 in following locations: Near Howell, Livingston County; near Milan, Monroe County; in Sumpter Township, Wayne County; and in Sharon Township, Washtenaw County. These are new county records. Determinations by R.F. Ruppel, confirmed by R.J. Sauer. Adults abundant in Calhoun County in corn with little silk. Clipping of silks can reduce seed set. (Verwey et al.).

INDIANA - Western corn rootworm adult collected in Vermillion County August 1 by M. Busching. This is a new county record. Adults much more common in northern districts than ever before; specimens found eastward almost to State border. Adults fed on leaves in some cases where tassels not yet exposed. (Meyer). MINNESOTA - Most Diabrotica spp. larvae in prepupal or pupal stages. Adults in about 25 percent of cornfields; not feeding on silks, found chiefly in leaf axils. Beetles found to date in central, southwest, and west-central districts mostly D. virgifera. (Minn. Pest Rpt.).

NEBRASKA - Western corn rootworm reduced pollination up to 15-20 percent in some scattered cornfields in State. Adults averaged 1.2 per plant in 360 Clay County cornfields. (Gary, Keith). Infestation light in 6 Lincoln County cornfields, averaged 1-2 per plant except in one field with 12-15 per plant. Beetles mostly light in 20 Antelope County cornfields, ranged 0-2 per plant. Heavy silk clipping noted in 2 fields; beetles averaged 22 and 28 per plant. Ranged 0-2 per plant in 4 Boone County cornfields. (Koinzan). Ranged 2-15 per plant in 10 Merrick County cornfields; one field noted with 10-20 percent pollination reduction due to silk clipping. (Raun).

MISSOURI - D. virgifera heavy on corn in northwest and west-central areas. Ranged 20-40 beetles per plant. Adults collected in Jefferson and Ste. Genevieve Counties. These are new county records. (Munson). UTAH - Adults very heavy on corn in some Lehi and American Fork, Utah County, fields. This is a new county record. (Davis). Heavily infested 3 fields north of Lehi. (McAllister). Adults very numerous in field northeast of Salt Lake City Airport, Salt Lake County. (Roberts, Daniels).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - OHIO - Adults averaged 1.6 and 0.9 per silk in corn checked in Logan and Morgan Counties, respectively. Adults averaged less than 0.1 per silk in corn checked in Williams, Fulton, Defiance, Henry, Paulding, Putnam, and Hancock Counties. (Fox). INDIANA - Adults heavier than in past. Ranged 25-30 per silking plant in Lawrence County field. Adults ranged 8-9 per non-silking plant in same field. Adults observed in fields where seldom if ever previously noted, particularly south of range of D. virgifera (western corn rootworm). (Edwards, Meyer). MICHIGAN - Adults present in corn. Numerous during July in Livingston County field and may need control in some fields. (Ruppel). ALABAMA - Three adults collected from silks and tassels of corn in Cherokee County. Collected and determined by H.F. McQueen. This is a new county record. (McQueen).

FALL ARMYWORM (Spodoptera frugiperda) - NEW MEXICO - Damage continued in sorghum near Deming, Luna County, with 40 percent of plants flagged. Inflorescence damage increased to one in four plants. (N.M. Coop. Rpt.). OKLAHOMA - Heavy infestations (near 100 percent of plants) found in many fields of 18 to 24-inch sorghum in Caddo and Washita Counties. Some younger fields (4-6 inches) damaged. Heavy in Canadian County. (Okla. Coop. Sur.). MISSOURI - Light to moderate in late-planted corn and grain sorghum in most areas. Heavy infestations observed in south-central and east-central areas. (Munson). ARKANSAS - Infestations in whorls of young sorghum in Faulkner County very light for this time of year. This is encouraging, as this pest was very heavy on sorghum and especially pastures and required widespread treating in 1973. (Boyer). MISSISSIPPI - In 100 acres of young corn and sorghum grown for silage in Pontotoc County, 60 percent of plants infested with 4-5 larvae in buds. (Mitchell). ALABAMA - One to 3 larvae of all ages occurred per stalk of 3 to 4-foot high corn in one-acre planting in Cherokee County. One to 2 larvae of Diatraea grandiosella (southwestern corn borer) per 5 stalks also present. Occasional full-grown larva present in older corn in Calhoun County. (Hall et al.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - MINNESOTA - First-generation pupae (first of season) found in corn. One pupa detected in Chisago County field and one field in southwest area with 23 percent pupae. Egg masses also found. (Minn. Pest Rpt.). WISCONSIN - Second moth flight underway in southern and central counties. Dissections of corn plants showed fourth and fifth-instar larvae predominant in central, southern, and western counties as far north as Stevens Point in central area and Menomonie in western area. Pupae not as numerous in southwest, south-central, and central counties. Empty pupal cases light in south-central area and in central sands area; indicates peak moth activity in these areas in about 14-21 days, depending on weather. Damage to corn heaviest in central area where older fields frequently with 60 percent of plants infested. Elsewhere, about 15 percent of plants infested. Some tunneling into ears noted. Dissections in northeast indicate third-instar larvae predominant; about 12 percent of plants showed damage. Up to 40 percent of plants showed damage in few northeast area fields. (Wis. Ins. Sur.).

ILLINOIS - Second-generation European corn borer moth emergence 15 percent in Ogle County. First-generation pupae 65 percent of forms found. First-generation population of 4.6 larvae per 100 corn plants considered average relative to past 10 years, although 4 times heavier than that of 1973. Larvae averaged 24, 23, 18, and 15 per 100 plants in Adams, Jasper, De Kalb, and Madison Counties, respectively. These areas could become "hot spots" for second-generation larval populations. (Ill. Ins. Rpt.). DELAWARE - Adults averaged about 80 per night in blacklight trap collections in western Sussex County. (Burbutis). MAINE - Infestations noted in several Penobscot patches of sweet corn. Damage to infested corn expected to be more noticeable as infested tassels die and break off and as entry holes can be found on sides of developing ears. (Gall).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - OKLAHOMA - Heavy in many fields of young dryland sorghum (4-8 inches tall) in Caddo and Washita Counties. Up to 95 percent of plants killed in some fields. Heavy damage in spots noted in some Garvin County fields. Damage to planting of sweet corn noted in Beckham County. (Okla. Coop. Sur.). GEORGIA - Still heavy in seedling sorghum in Spalding County. (Tippins).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - COLORADO - Egg masses averaged one per seven plants in many cornfields of Kit Carson, Washington, Yuma, and Phillips Counties. (Pilcher).

BLACK CUTWORM (Agrotis ipsilon) - MISSOURI - Heavy in replanted bottom lands cornfields in north-central area. (Munson).

CORN ROOT APHID (Aphis maidiradicis) - KENTUCKY - Infested corn in Lincoln, Pulaski, Scott, Green, Butler, Ohio, Hardin, Owen, and Fayette Counties. About 20 percent of fields infested. Corn in critical stage of development with 37 percent presilking, 41 percent silked, and 22 percent milk stage or later with much of corn-growing area short of moisture. (Barnett, Gregory).

BANKS GRASS MITE (Oligonychus pratensis) - OKLAHOMA - Infestations on sorghum in Texas County about gone following rain early this period, but infestations on corn continued heavy with many fields treated. (Okla. Coop. Sur.).

SMALL GRAINS

ENGLISH GRAIN APHID (Macrosiphum avenae) - NEVADA - Infested 1,280 acres of wheat near Golconda, Humboldt County, at 100+ per sweep. (Rowe). MONTANA - Averaged 2 per sweep in wheat in Beaverhead County. (Pratt).

FORAGE LEGUMES

PEA APHID (Acyrthosiphon pisum) - UTAH - Very heavy and needing control in Delta, Deseret, Sutherland, and nearby areas of Millard County. Lady beetles very heavy in one alfalfa field at Flowell and approaching levels to control A. pisum and Therioaphis maculata (spotted alfalfa aphid). A. pisum ranged 5-22 per 10 sweeps at Logan, Cache County. (Knowlton). NEW MEXICO - Counts of 40-50 per 20 sweeps along with 12-15 lygus bug nymphs (Lygus spp.) on alfalfa in Chaves County indicate slight increase of alfalfa pests in area. Conditions in area should be watched. (N.M. Coop. Rpt.). MINNESOTA - Counts in alfalfa decreased drastically. Counts that ranged many thousands per 100 sweeps decreased to several hundred per 100 sweeps. (Minn. Pest Rpt.). WISCONSIN - Increased greatly in alfalfa. Counts varied from one per sweep in extreme northeast area to 120 per sweep in south-central area. Averaged about 2 per sweep in central, southwest, and west-central areas as far north as Pierce County. (Wis. Ins. Sur.).

LYGUS BUGS (Lygus spp.) - WASHINGTON - Increased in alfalfa fields sampled July 22-26 in central seed pest management area. Several counts of 6+ per sweep found; averaged 22 per sweep in one field. (Madsen).

EUROPEAN ALFALFA BEETLE (Subcoccinella vigintiquatuorpunctata) - OHIO - Collected from bouncing-bet near railroad depot at East Palestine, Columbiana County, July 22, 1974. This is a new State record. Collected from bouncing-bet in railroad yard at Hubbard, Trumbull County, July 23, 1974. This is a new county record. Collections by C.C. Custer. Determinations by R.D. Gordon. (PPQ). PENNSYLVANIA - New County records as follows: Lancaster July 17; Montgomery July 11; and Schuylkill July 9. Determined by R.D. Gordon. (Ramsay).

GRASSHOPPERS - MINNESOTA - Counts still heaviest in west-central and central districts. Growers sprayed field edges in Wilkin County; about 200 acres treated. Damage not very apparent, merits of treating difficult to evaluate. High value of crops adds incentive to treat. Melanoplus bivittatus and M. differentialis mostly in fourth and fifth instar, but M. femurrubrum ranged third to fourth instar. Scattered infestations found in Isanti and Anoka Counties, but chiefly in alfalfa. Populations in these fields economic, 8-15 per square yard. Weather continued favorable for grasshopper development, but adults of economic species found in trace numbers only. (Minn. Pest Rpt.).

SOYBEANS

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - First-brood adults laying eggs in all areas of Eastern Shore. Damage to date appears light to moderate in most of 200,000 acres in State. About 70 percent of this acreage will have received sprays by end of season. Second larval-damage peak expected first week in September. (U. Md., Ent. Dept.).

STRIPED BLISTER BEETLE (Epicauta vittata) - MISSISSIPPI - Moderate to heavy in spots in Leake and Noxubee Counties. In Carroll County, adults averaged 25 per row foot in local spots. (Robinson).

GREEN CLOVERWORM (Plathypena scabra) - ILLINOIS - Larvae light in 93 percent of fields surveyed. Individual field averages ranged 0-70 per 100 sweeps; State average 8.9 per 100 sweeps. Of districts surveyed, counts heaviest in east and east-southeast; averaged 15.4 and 15.1 per 100 sweeps, respectively. This about 3 times heavier than in other three districts surveyed. Present infestation light and noneconomic. Leaf loss one percent in single Champaign County field; averaged 70 larvae per 100 sweeps. Average larval counts per 100 sweeps by district: Northwest 5.3, northeast 4.8, central 6.8, east 15.4, and east-southeast 15.1. (Ill. Ins. Rpt.).

BLACK CUTWORM (Agrotis ipsilon) - MISSOURI - Heavy in fields previously flooded and planted late on bottom land in north-central area. (Munson).

BEET ARMYWORM (Spodoptera exiqua) - GEORGIA - Light to moderate on soybeans in Crisp, Dooly, and Peach Counties. (French).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - SOUTH CAROLINA - Caused economic damage to 12-inch tall soybeans in Chester County. This is first time economic damage to soybeans noted in State. (Thomas). ALABAMA - Numerous stalks breaking in all fields in Marengo County where nymphs girdled them earlier. (Yates, Henderson). OKLAHOMA - Ranged 15-20 per row foot in Tulsa County soybeans. Averaged one per row foot in Garvin County. Ranged moderate to heavy in McCurtain County and light to moderate in Wagoner and Muskogee Counties. (Okla. Coop. Sur.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TENNESSEE - Punctured squares ranged 1-28 percent in fields surveyed in northern Fayette County; averaged 9.5 percent for 50 fields. (Locke). Generally light in treated McNairy County fields; punctured squares ranged up to 37 percent in untreated fields. Generally light in treated Henderson County fields. (Patrick). In central area, punctured squares ranged 0-15 percent, depending on whether controls applied. (Gordon). SOUTH CAROLINA - Migration underway and many fields where control not sustained now blooming in top. Where growers not on recommended schedule, square damage ranged up to 50 percent. (Sparks). GEORGIA - Infestations increased throughout State, especially where some older cotton cutting out and fruiting decreasing. (Womack).

ALABAMA - Boll weevil infestation counts ranged 5-90 percent in south, central, and western areas with most fields under control and average square infestations of 5-30 percent during this major second "hatchout." Infestation counts in north area ranged 0-30 percent with average of less than 15 percent. Second "hatchout" in valley cotton next 7 days expected to cause 10-15 percent increase in infested square counts. Only 35 percent of 8,000 acres under scouting program as of July 24 in Cherokee County had received treatment due to low infestation counts. Eighty to 90 percent of all acres in county expected to need treatment within 7

days. (Smith et al.). MISSISSIPPI - In about 1,450 fields checked over State, punctured squares averaged 5 percent; ranged from 0.5 percent in 150 fields in Coahoma County to 25 percent in some fields in Noxubee and Holmes Counties. Second generation well underway with controls used statewide. (Robinson).

LOUISIANA - Boll weevil more abundant and "hot spots" larger in size than for past few years. Increased number of damaged squares indicates weevil "hatchout" occurred past 10 days. Weevils from squares on ground will cause dramatic increase in damaged square counts if not controlled. (Tynes, July 31). ARKANSAS - Infestations gradually increasing in most areas of State as expected at this time of year. Generally, infestations relatively light in most cases. Overwintered weevils still noted in some fields. (Boyer). OKLAHOMA - Percent punctured square counts ranged up to 26 in Jackson and Greer Counties, up to 21 in Tillman County, 8-9 in Harmon County, 2-3 in Kiowa County, 4-10 in Washita County, 0-52 in Caddo County, up to 42 in Garvin County, 2-20 in Muskogee County, and 0-8 in Wagoner County. Adults taken in Muskogee County traps declined with only 17 taken in 32 traps. (Okla. Coop. Sur.).

TEXAS - Boll weevil infestations in south-central counties becoming less significant as cotton matures and treating for Heliothis spp. (bollworm) larvae increases. Boll weevils still big problem in north-central area. Infestations ranged 20-100 percent punctured squares in Collin, Fannin, Delta, and Hunt Counties. In many fields in these counties, weevils laying eggs in half-grown bolls. Some weevils dying inside squares and some very light activity reported in isolated fields along eastern edge of St. Lawrence cotton-producing area. (Cole et al.).

BOLLWORMS (Heliothis spp.) - NEW MEXICO - Counts of up to one H. zea (bollworm) egg in five plants noted in Dona Ana County. Larvae ranged 2-8 per 100 plants with up to 15 damaged squares observed per 100 plants. (N.M. Coop. Rpt.). OKLAHOMA - H. zea eggs per 100 terminals ranged 2-20 in Muskogee, Wagoner, and McCurtain Counties and 9-46 in Jackson, Greer, Tillman, Harmon, and Kiowa Counties. Heavy in Caddo and Washita Counties. Damaged squares ranged 3-21 percent in southwest counties and averaged 10 percent in Garvin County. Damaged terminals ranged 0-12 percent in Wagoner, Muskogee, and McCurtain Counties. (Okla. Coop. Sur.).

TEXAS - H. zea and H. virescens (tobacco budworm) heavy on green, succulent cotton throughout south-central counties. Lighter in nature, dry fields. Some open bolls reported in Brazos bottom in Burleson and Robertson Counties. Heaviest H. zea infestations noted in these counties. H. zea infestations in most north-central counties still light as dry weather caused cotton to wilt. Some fields in area received rain and moderate to heavy infestations of Heliothis spp. common. Heliothis spp. heavy in one late-planted field in Collin County. H. virescens numbered 13 out of 15 Heliothis spp. larvae taken from this field. Eggs ranged 0-100 per 100 terminals in Pecos and Reeves Counties with 8-9 percent larvae and 0-15 percent square damage. Eggs ranged 5-30 per 100 terminals in Glasscock, Reagan, and Upton Counties with some isolated fields having up to 60 eggs per 100 terminals in areas recently irrigated. Larvae in Glasscock and Reagan Counties ranged 2-10 per 100 plants with 5-10 percent damaged squares. (Cole et al.).

LOUISIANA - Heliothis spp. moths laying eggs throughout plants, including blooms and bracts of squares. Terminal examinations not giving true picture of number of eggs laid. (Tynes, July 31). MISSISSIPPI - Egg ranged 2.7-3.8 percent in Coahoma County; in Noxubee County cotton near corn, up to 50 percent of terminals with eggs in some fields. Generally, larval control good; averaged 2 percent larvae in squares statewide. (Robinson). ALABAMA - Moth flights erratic over State with heavier populations in south and central areas. Eggs counts ranged 0-60 per 100 terminals, averaged less than 20. Average number of moths per blacklight trap during period July 24-27 by county: Pickens 4, Tuscaloosa 1, Autauga 15, Elmore 300, Cherokee 5, Madison 2, Limestone 15, and Colbert 6. (Smith et al.).

GEORGIA - H. zea eggs and larvae increased in most areas; still below treatment level in many fields. (Womack). SOUTH CAROLINA - Light trap catches of H. zea and H. virescens moths peaking out. Egg deposition ranged 80-90 per 100 terminals. New larvae ranged up to 40-50 per 100 plants. Frequent showers caused control difficulty. (Sparks). TENNESSEE - Heliothis spp. increasing; damaged squares ranged 1-5 percent due to controls for Anthonomus grandis (boll weevil). Heliothis spp. eggs found in 1-4 percent of terminals. Larval counts and damaged squares very light for time of year in all cotton-growing areas of State. (Locke et al.).

BEET ARMYWORM (Spodoptera exigua) - TEXAS - Populations occasionally found feeding on squares in isolated fields in Pecos and Reeves Counties. Occasional infestations also noted in Lubbock area counties. Infestations in these fields generally localized and spot treatment recommended. (Neeb, McIntyre). SOUTH CAROLINA - Collected from cotton by D. White in Lee County. Determined by C.A. Thomas. This is a new county record. (McCaskill).

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) - OKLAHOMA - Still heavy in irrigated cotton in Caddo and Washita Counties. Ranged up to 300 per 100 terminals. Ranged 0-20 per 100 terminals in Wagoner, Muskogee, and McCurtain Counties. (Okla. Coop. Sur.). TEXAS - Ranged 10-15 per 100 terminals in Glasscock, Reagan, Upton, Midland, and Martin Counties; ranged 5-20 in Pecos and Reeves Counties. (Neeb).

BANDEDWINGED WHITEFLY (Trialeurodes abutilonea) - ALABAMA - Infestations continued to increase in cotton statewide; heavier than previous years. Few fields in central area received controls. (Smith et al.). MISSISSIPPI - Infested 5 percent of plants in 300 Yazoo County fields. Required treatment on 20 acres in Scott County where honeydew present. Infested 50 percent of terminals in one Perry County field; no honeydew present. (Robinson).

COTTON APHID (Aphis gossypii) - MISSISSIPPI - Appears to be increasing over State with some cotton showing honeydew formation and heavy populations. (Robinson).

TOBACCO

GREEN PEACH APHID (Myzus persicae) - VIRGINIA - Heavy infestation observed at Chatham, Pittsylvania County, July 31. Becoming serious problem to farmers in area with populations of up to 10-20 per square inch. Numerous predators evident including lady beetle adults and larvae, syrphid fly larvae, and few stilt bugs. Aphids on tobacco also reported in Appomattox County July 31. (Surles). KENTUCKY - Heavy populations noted in Casey and Taylor Counties. Only about 8 percent of burley tobacco topped in State. (Barnett, Gregory).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - KENTUCKY - Adults averaged 3+ per leaf at one Taylor County location. (Barnett, Gregory).

MISCELLANEOUS FIELD CROPS

A CECIDOMYIID MIDGE (Contarinia schulzi) - MINNESOTA - Larvae trace in sunflower in Marshall area, Lyon County. Larvae heavy in outer 15-20 rows of sunflower in few Norman County fields; less than one percent of heads lost due to larval damage. (Minn. Pest Rpt.).

POTATOES, TOMATOES, PEPPERS

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - Larvae reported in potatoes at location in Juneau County. Moth activity noted in Portage County potato field. Blacklight trap catches indicate moth emergence at steady rate in central district. (Wis. Ins. Sur.). OHIO - Second-generation moths light in blacklight traps at Wooster, Wayne County, July 25. By August 2, number of trapped moths increased rapidly to point pepper growers should be alerted to initiate spray programs. (Rings).

GREEN PEACH APHID (Myzus persciae) - NORTH DAKOTA - Alates infested potatoes in Grand Forks County in all fields checked in Johnstown and Gilby areas. Ranged 24-48 (average 32) per 100 sweeps. (Kaatz).

TARNISHED PLANT BUG (Lygus lineolaris) - MICHIGAN - Populations migrating from ripening grain fields to potato fields in Upper Peninsula. Treatments should be applied as needed. (Cress).

POTATO FLEA BEETLE (Epitrix cucumeris) - NORTH DAKOTA - Adults noted in 93 percent of potato fields checked in Grand Forks County. Populations ranged up to 700 (average 162) per 100 sweeps. (Kaatz).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - UTAH - Damage common, above normal in potato and sometimes tomato fields and gardens in Salt Lake and Davis Counties. (Burningham).

BEANS AND PEAS

MEXICAN BEAN BEETLE (Epilachna varivestis) - MICHIGAN - Larvae common in some Bay County bean fields. Treatment recommended if larvae or adults can be found easily in fields. (Rouget et al.). NEBRASKA - Larvae increased in Panhandle area; ranged 7-8 per plant in many dry bean fields in Scotts Bluff County. (Hagen).

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata undecimpunctata) - OREGON - Adults averaged 2.3 per 10-sweep sample on small experimental planting of bush beans in Linn County. (Crowell).

PEA APHID (Acyrthosiphon pisum) - WISCONSIN - Increased greatly in peas; ranged 8-120 per sweep in fields checked in Dane, Columbia, and Outagamie Counties. Older field in eastern Dane County averaged 120 per sweep in margin, 35 per sweep in center. Some later peafields may require treatment. (Wis. Ins. Sur.).

GENERAL VEGETABLES

GLASSY CUTWORM (Crymodes devastator) - OREGON - Moths of this notuid currently most abundant species in blacklight traps throughout Willamette Valley. Counts increased past 14 days; heaviest yet recorded this season. Very abundant in blacklight trap at St. Paul, Marion County. During period July 18-24, total of 1,710 moths trapped; 1,080 trapped during period July 25-28. (Penrose).

VARIEGATED CUTWORM (Peridroma saucia) - OREGON - Larvae infested small experimental planting of turnips in Linn County; leaf damage severe in spots. (Crowell).

HAWAII INSECT REPORT

Fruit, Ornamentals - Surveys to determine range and degree of infestation of ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) continued. To date, pest found 2 miles north of original find at Waikiki, Oahu. Infestation ranges light to heavy on rose; scattered trace to heavy infestations found on lime, navel orange, and tangerine. Surveys in commercial rose plantings in Waimanalo, Pupukea, Honouliuli, and Waianae negative. (Shiroma et al.). REDBANDED THRIPS (Selenothrips rubrocinctus) caused moderate foliar damage to 50 mango trees in Wailuku, Maui; heavier damage noted in backyard trees at Kahului. Chemical spays necessary on some trees. (Miyahira). Presence of CITRUS SWALLOWTAIL (Papilio xuthus) confirmed on Molokai Island; apparently well established and can be found from Hoolehua to Kamalo. P. xuthus now found on all major islands except Lanai. (LePlante).

Beneficial Insects - Three additonal females of a MANTID (Brunneria borealis) collected from Waahila Ridge in Manoa, Oahu. To date, 8 specimens found in general vicinity of Waahila Ridge. (Kaichi, Ito). See **CEIR 24(31):606.** (PPQ). Larvae and adults of a CHRYSOMELID BEETLE (Octotoma scabripennis) and LANTANA HISPID (Uroplata girardi) heavy on lantana in two separate areas on Hawaii Island. Larval mines and adults of O. scabripennis readily noticeable on foliage in Hookena, Kona. Mines and adults of U. girardi heavy on lantana foliage in Hilo. (Yoshioka). Larvae and adults of a GORSE WEEVIL (Apion ulicis) infested 73 percent of 415 seed pods collected from gorse on 100+ acres at Olinda, Maui. Larvae averaged 8.7 per pod. This high percentage (73 percent) compares with 1.5 percent of about 400 seed pods sampled in February 1974. (Ah Sam).

DECIDUOUS FRUITS AND NUTS

APPLE MAGGOT (Rhagoletis pomonella) - VERMONT - Adult emergence continued, but at slower rate than normal. (MacCollom). MASSACHUSETTS - Adults increased rapidly in bait traps and sticky spheres since July 23. At abandoned orchard in Sherman Falls, Franklin County, 23 flies taken on 5 yellow panels and 7 on 5 red spheres; of total, 26 were females, 4 were males. No adults taken in commercial orchard at Belchertown, Hampshire County, from 6 traps; however, in nearby abandoned orchard 5 adults taken from 5 yellow panels and 10 from 5 red spheres. (Jensen).

CODLING MOTH (Laspeyresia pomonella) - OHIO - Blacklight trap catches indicate second-generation moth emergence peaked July 26-28 in Wooster area, Wayne County. (Hall). WASHINGTON - Pheromone trap catches in Buena area, Yakima County, mostly ranged 0-4 week ending July 26, with few ranging 5-9 per trap. Trap catches in Grant and Adams Counties light week ending July 28, but with 20-37 moths in 4 traps. During week ending July 27 in Chelan and Douglas County area, catches averaged 10+ per trap in 3 traps, with 26 in one trap. (Eves et al.).

EUROPEAN RED MITE (Panonychus ulmi) - MAINE - Increased in some apple orchards to point where leaves can start bronzing. Warm weather favors buildup. (Gall).

FILBERTWORM (Melissopus latiferreanus) - OREGON - Moth catches at Pleasant Hill, Lane County, during late July as follows: 14 July 22; 46 July 23; 23 July 25; 27 July 26; 88 July 27 and 28; 29 July 29. (Tinker). Total of 18 moths captured at Forest Grove, Washington County, during period July 12-20. (Collins).

PECAN WEEVIL (Curculio caryae) - GEORGIA - Adult activity increased with some nut drop from adult feeding in Pike and Lamar Counties. (Tippins et al.). Average of one adult per day per 800 emergence traps with no observed nut drop resulting from adult feeding in Peach County. Adult emergence may be accelerated by rains. (Harris).

PECAN SPITTLEBUG (Clastoptera achatina) - MISSISSIPPI - Spittle masses on 25 percent of terminals in 30 pecan trees examined in Yalobusha County. (Varner).

ORNAMENTALS

FALL WEBWORM (Hyphantria cunea) - FLORIDA - Larvae and adults collected on chrysanthemums at commercial nursery in Ft. Myers area, Lee County, July 24; adults heavy resting on telephone poles and red maple foliage (Acer rubrum) near flower shop at La Belle, Hendry County, July 29. (Fla. Coop. Sur.).

BAGWORM (Thyridopteryx ephemeraeformis) - WEST VIRGINIA - Larvae caused extensive damage to ornamental shrubs throughout Kanawha Valley, Kanawha County. One homeowner reported 70 percent defoliation to 12 large juniper shrubs. (Hacker).

AZALEA CATERPILLAR (Datana major) - SOUTH CAROLINA - Noted on ornamentals in Dillon County by R.C. Dubose. This is a new county record. (McCaskill).

AZALEA LACEBUG (Stephanitis pyrioides) - SOUTH CAROLINA - Observed damaging azaleas at several nurseries in Lexington and Richland Counties. Treatments applied. (Gleen). These are new county records. (McCaskill).

TWOLINED SPITTLEBUG (Prosapia bicincta) - SOUTH CAROLINA - Caused slight damage to several ornamental varieties at nursery in Oconee County. This is a new county record. (McCaskill).

FOREST AND SHADE TREES

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - NORTH CAROLINA - State probably experiencing one of worst years on record for damage. Before July 10, with surveys incomplete, 9,000 spots of beetle-attacked timber located. This represented 25 percent increase over early spring outbreak and several thousand additional spots expected when all surveys completed. Usually young vigorously growing pines not readily attacked; however, in some heavily infested areas, young planted pines being attacked. (For. Pest Newsltr., N.C. For. Ser.).

SPRUCE BUDWORM (Choristoneura fumiferana) - INDIANA - Adults of this species and C. pinus (jack pine budworm) taken in blacklight traps in Tippecanoe and Lagrange Counties. Both species are new county records for each county. (Ballard).

ELM LEAF BEETLE (Pyrrhalta luteola) - ALABAMA - Heavy larval populations practically defoliated numerous Chinese elm trees along streets and on lawns in Cherokee, Calhoun, Clay, Randolph, Chambers, and Lee Counties. (McQueen). ARKANSAS - Infestations quite common and may be observed in all areas of State. Infestations especially heavy in extreme northwest area. Elm trees continue to die in this area as result primarily of Dutch elm disease; however, beetles and drought contribute to death of trees by weakening effect. (Boyer). OKLAHOMA - Damage to Siberian elms increased rapidly in many areas of State; larvae matured past 2-3 weeks. (Okla. Coop. Sur.). KANSAS - Second-generation infestations caused severe foliar injury to many Siberian elms at Manhattan, Riley County; Topeka, Shawnee County; and in many cities in eastern part of south-central district. (Bell). UTAH - Heavily infested and injured elm trees at Logan, Cache County. Adults moderate in blacklight trap at Logan, heavier populations taken at Salt Lake, Salt Lake County. (Knowlton, Stephens).

LARGER ELM LEAF BEETLE (Monocesta coryli) - ALABAMA - Extremely heavy populations defoliated numerous American elm trees along creek bottoms at Gold Hill, Lee County, and State Highway 9 in Cherokee, Clay, and Calhoun Counties. (McQueen).

A CHRYSOMELID BEETLE (Chrysomela alnicola alnicola) - MAINE - Reported from Casco, Cumberland County, and severely defoliated alder. Species will not feed on other related plants. Serious defoliation by Chrysomela spp. uncommon. (Gall).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - MISSOURI - Heavy in south-central and east-central areas. Small oaks defoliated in these areas. (Munson). KANSAS - Adults collected from oaks July 25, 1974, in Cherokee and Labette Counties by J.B. Lambley. Determined by J.M. Kingsolver. This is a new State record. (Bell).

A TENEBRIONID (Merinus laevis) - WEST VIRGINIA - Adults collected from under burlap on white oak by P.V. Buskirk in Hampshire County May 29, 1974. This is a new State record. Collected in Hardy County June 17, 1974. This is a new county record. Determined by A.E. Cole. (Cole).

AN ADELGID (Adelges tsugae) - NEW JERSEY - Adults heavy on hemlock at Trenton, Mercer County. Specimens collected June 12, 1974, by C. Holmes. Determined by L.M. Russell. This is a new State record. (PPQ).

AN APHID (Hamamelistes spinosus) - WEST VIRGINIA - Galls heavy on foliage of birch over 10-acre section of Mineral County. (Miller). This is a new county record. (Hacker).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 93 cases reported from continental U.S. during period July 14-20 as follows: Texas 89, New Mexico 3, Arizona 1. Total of 87 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 168,330,400 as follows: Texas 145,020,400; New Mexico 3,843,000; Arizona 16,839,000; California 2,682,000. Total of 25,143,000 sterile flies released in Mexico. (Anim. Health).

FACE FLY (Musca autumnalis) - MARYLAND - Still unchanged in central area, ranged 25-60 per head on dairy and beef cattle. Recent heavy rains may cause temporary decline next 7 days; however, counts should increase during August. (U. Md., Ent. Dept.). MISSISSIPPI - Ranged from 5 per head in Noxubee County to 100 per head on some cattle in Monroe and Chickasaw Counties. (Robinson). TENNESSEE - Counts per head on cattle checked by county: Hamblen 5-15, Giles 10-25, and Trousdale 20-40. (Walker et al.). Several head observed in Trousdale County with pinkeye. Some animals observed blind in one eye. (Gregory). WISCONSIN - Light to moderate on most cattle herds observed. (Wis. Ins. Sur.). IOWA - Ranged 2-35 (average 15) per face on 4 untreated Story County herds. (DeWitt).

HORN FLY (Haematobia irritans) - MARYLAND - Moderate to heavy in Frederick, Carroll, and Montgomery Counties on beef and dairy cattle. Ranged 80-200 per head in several herds. (U. Md., Ent. Dept.). MISSISSIPPI - Averaged less than 100 per beef animal in Simpson, Tallahatchie, and Amite Counties, 500+ per animal in Noxubee, Monroe, and Oktibbeha Counties. (Robinson). TENNESSEE - Counts per head on cattle checked by county: Hamblen 10-40 and Giles 50-100. (Walker, Watson). IOWA - Ranged 20-130 (average 90)

per head on Story County herd. (DeWitt). OKLAHOMA - Continued to decrease on Payne County cattle. Averaged 85 per head on cows and 800 per head on bulls. Light in several counties. (Okla. Coop. Sur.) WISCONSIN - Generally light to moderate on beef and dairy herds in all areas; somewhat below normal. (Wis. Ins. Sur.). COLORADO - Horn fly averaged 100 per side on untreated cattle in Weld County. (Hantsbarger). TEXAS - Light to moderate on cattle in Andrews, Glasscock, Midland, and Martin Counties. Moderate to heavy on cattle in Upton, Brewster, Jeff Davis, and Pecos Counties. H. irritans appears to be biggest problem at present on cattle in most Panhandle counties. Activity increased in San Angelo area. (Neeb et al.).

STABLE FLY (Stomoxys calcitrans) - WISCONSIN - Light to moderate on livestock; seldom exceeded 15 per animal in Portage and Waushara Counties. (Wis. Ins. Sur.). OKLAHOMA - Ranged 0.5-1 per head on dairy cattle checked in Payne County. (Okla. Coop. Sur.).

HOUSE FLY (Musca domestica) - TEXAS - Heavy around barns and livestock pens in Glasscock County. (Neeb). NEW MEXICO - Recent rains and humid conditions caused severe outbreak throughout area, especially at Albuquerque, Bernalillo County, and Las Cruces, Dona Ana County, along Rio Grande River. (N.M. Coop. Rpt.).

MOSQUITOES - MAINE - Aedes spp. still abundant although populations decreasing. A. abserratus most abundant in Orono area. A. stimulans seems most durable of group and will persist into September in areas where abundant. A. triseriatus heavier than usual in central area. (Gall). MASSACHUSETTS - During period July 25-31, Aedes fitchii, A. triseriatus, A. vexans, A. sticticus, Anopheles punctipennis, and Psorophora ferox taken in bite collections. During same period, 13 species taken in light trap collections. (Jensen). WISCONSIN - Generally light around State, but mosquitoes and biting severe in many small localized areas near permanent wetlands. (Wis. Ins. Sur.). MINNESOTA - Light trap collections in Metropolitan Mosquito Control District July 21-27 totaled 4,138 females; 51 percent Coquillettidia perturbans, 40 percent Aedes vexans. In evening bite collections, these species accounted for 95 percent of 121 females. In daytime bite collections totaling 1,632 females, 44 percent A. vexans, 17 percent A. stimulans, and 10 percent C. peturbans. (Minn. Pest Rpt.).

A LOUSE FLY (Hippobosca longipennis) - CALIFORNIA - Although entire cheetah compound at San Pasqual, San Diego Wild Animal Park, treated June 11, some flies observed late in July. On July 25, area-wide spray application made. Area treatment used in lieu of individual treatments of cheetahs. There is much concern pest will move into nearby areas and be serious if eradication on cheetahs is not accomplished. If this fly moves onto wildlife and domestic animals, dog owners should be first to notice it. (Cal. Coop. Rpt.).

BLACK WIDOW SPIDER (Latrodectus mactans) - NEW JERSEY - Adults heavy in meadowlands around Hackensack, Bergen County, August 1; adults found under debris, railroad ties, and old cars. Egg cases also sited. (Jaques).

BENEFICIAL INSECTS

A BRACONID WASP (Lysiphlebus testaceipes) - OKLAHOMA - Heavy numbers of parasitized greenbugs present in many sorghum fields in Caddo and Washita Counties. Parasites and predators bringing greenbugs under control in some older fields. (Okla. Coop. Sur.).

ICHNEUMON WASPS - OHIO - Lemophagus curtus, a larval parasitoid of Oulema melanopus (Cereal leaf beetle), recovered for first time at field insectary in Guernsey County July 9, 1974, by F. Prentice. Determined by P. De Witt. NEW YORK - Diaparsis sp., a larval parasitoid of O. melanopus, recovered in Wyoming County June 26, 1974, by E. Foley. Determined by V. Montgomery. This is first recovery in State. (De Witt).

LADY BEETLES - OHIO - In Madison County 18-acre soybean planting, one lady beetle per row foot found. Two species comprised 99 percent of population; Hippodamia convergens (convergent lady beetle) predominantly in pupal stage and 3-5 times as prevalent as Coleomegilla maculata which occurred only in late larval stages. These species ranged 4-5 on occasional soybean plants. (Fox).

PUNCTUREVINE SEED WEEVIL (Microlarinus lareynii) - OKLAHOMA - Adults collected from puncturevine in Eakly area, Caddo County. This is a new county record. (Okla. Coop. Sur.).

CARABID BEETLES - WEST VIRGINIA - Harpalus pennsylvanicus collected at Charleton, Kanawha County, July 16, 1974, by F. Varian. Adults of Melanius caudicalis collected under burlap bands on white oak tree at Parsons, Tucker County, June 19, 1974, by P. Van Buskirk. Determinations by A.E. Cole. This is first time these species reported for State. (Cole).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - MONTANA - Hatch of rangeland species continued in 10 eastern and northeastern counties; first-instar nymphs and adults found at many locations. (Pratt). UTAH - Often heavy on range and in vacant lots in Cache, Box Elder, Weber, Tooele, and Salt Lake Counties. Migrating into fields and gardens. (Knowlton, Burningham). NEVADA - M. cinerus damaged various yard plants at Silver Springs, Lyon County. (Adams, Clark). OREGON - Economic infestations of Oedaleonotus enigma and Melanoplus spp. not yet detected on significant acreages of rangeland in State. (Goeden).

JAPANESE BEETLE (Popillia japonica) - DELAWARE - Adults still heavy in many areas feeding on roses, grapes, willows, and other deciduous ornamentals. (Burbutis). GEORGIA - Ranged 300-400 per plant on home vineyard grapes and wild grapes in Fannin County. Also caused much damage on apples, corn, and beans. (Davenport). ALABAMA - Seven adults collected in traps in July along State Highway 79 on Cumberland Mountain, Jackson County. Two adults collected at Wind Creek State Park, Tallapoosa County, July 26. (Barham, Barker). TENNESSEE - Large number of beetles trapped in Hancock County. These catches first in county since 1963, and number indicates county now reinfested. (Gordon).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Boll infestations ranged 0-3 percent in isolated cotton fields in Pecos and Reeves Counties. (Neeb).

WHITERFINGED BEETLES (Graphognathus spp.) - ALABAMA - Adults fed heavily on foliage in two large soybean fields in Coffee County. Treatments to be applied. (Henderson et al.). Average of one larva per vine cutting hill of sweetpotato in commercial planting in Cullman County. Many young vines dying. (Wilson). GEORGIA - Adults heavy on chrysanthemums in Clarke County. Treatments required. (Smith).

DETECTION

New State Records - AN ADELGID (Adelges tsugae) - NEW JERSEY - Mercer County. (p. 633). ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - KANSAS - Cherokee, Labette. (p. 633). EUROPEAN ALFALFA BEETLE (Subcoccinella vigintiquaturopunctata) - OHIO - Columbiana County. (p. 625). A TENEBRIONID (Merinus laevis) - WEST VIRGINIA - Hampshire County. (p. 633). WESTERN CORN ROOTWORM (Diabrotica virgifera) - OHIO - Defiance County. (p. 622).

New County and Island Records

A LEAFHOPPER (Helochara communis) KENTUCKY - Collected in Grant County, Learry Lake, June 29, 1971. Identified by D. Barnett and confirmed by P.H. Freytag. (Barnett).

AN APHID (Hamamelistes spinosus) WEST VIRGINIA - Mineral (p. 633). AZALEA CATERPILLAR (Datana major) SOUTH CAROLINA - Dillon (p. 632). AZALEA LACE BUG (Stephanitis pyrioides) SOUTH CAROLINA - Lexington, Richland (p. 632). BEET ARMYWORM (Spodoptera exiqua) SOUTH CAROLINA - Lee (p. 628). CITRUS SWALLOWTAIL (Papilio xuthus) HAWAII - Molokai (p. 630). EUROPEAN ALFALFA BEETLE (Subcoccinella vigintiquatuorpunctata) OHIO - Trumbull. PENNSYLVANIA - Lancaster, Montgomery, Schuylkill (p. 625). JACK PINE BUDWORM (Choristoneura pinus) INDIANA - Tippecanoe, Lagrange (p. 632). NORTHERN CORN ROOTWORM (Diabrotica longicornis) ALABAMA - Cherokee (p. 623). PUNCTUREVINE SEED WEEVIL (Microlarinus lareynii) OKLAHOMA - Caddo (p. 635). SPRUCE BUDWORM (Choristoneura fumiferana) INDIANA - Tippecanoe, Lagrange (p. 632). A TENEBRIONID (Merinus laevis) WEST VIRGINIA - Hardy (p. 633). TWOLINED SPITTLEBUG (Prosapia bicincta) SOUTH CAROLINA - Oconee (p. 632). WESTERN CORN ROOTWORM (Diabrotica virgifera) OHIO - Fulton. MICHIGAN - Livingston, Monroe, Wayne, Washtenaw. INDIANA - Vermillion. MISSOURI - Jefferson, Ste. Genevieve (p. 622). UTAH - Utah (p. 623).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (salt marsh caterpillar)	Pseudaletia unipuncta (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellow-striped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARIZONA																								
Mesa 7/22-28			BL	7		60				100						5		3		2658		67	65	
FLORIDA																								
Gainesville 7/26-8/1			BL					5	1	5						1			2	1		2		
ILLINOIS (County)																								
Ogle 7/23-29			BL	255													29	177	221		23			
INDIANA (Districts)																								
South West 7/19-25			2BL	12											1	4	61	2	27					
West Central 7/19-25			2BL	40												3	4	15	57					
KANSAS																								
Great Bend 7/24-31			BL	1			52			3									10				1	
Tribune 7/25, 29			BL				6			2							1							
KENTUCKY																								
Lexington 7/30-8/2			BL	6													1		28			4	2	
MICHIGAN (Counties)																								
Lenawee 7/22-29			BL	48													15	39	115				4	
Oceana 7/22-29			2BL	60													5	49	88				3	
MINNESOTA																								
Fergus Falls 7/24-30			BL					2											4					
Worthington 7/24-30			BL																8					
MISSISSIPPI																								
Stoneville 7/26-8/1	70-93	1.01	2BL	25	4			6	2	47								2	20		16	39	8	
NEBRASKA																								
Clay Center 7/18-24			BL				5								1	1	4		7					
North Platte 7/19-25			BL	16			29			6					2	2	105	18	5					
NEW HAMPSHIRE																								
Lee 7/29			BL	1					1					1					2					

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap	Agrotis ipsilon (black cutworm)	Estigmene acrea (salt-marsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laphygma frugiperda (fall armyworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Mamestra configurata (bertha armyworm)	Mamestra quadrisella (tobacco budworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellow-striped armyworm)	Trichoplusia ni (cabbage looper)	Crops
NEW JERSEY																								
Seabrook 7/24-30			7BL	28						4			38				5							
Vineland 7/24-30			7BL	10						3			49				20							
NEW MEXICO																								
Las Cruces 7/29-8/2			BL							44					74	43						6		
NORTH DAKOTA																								
Bismarck 7/26, 28, 30			BL											23			3	2						
Fargo 7/26, 28, 30			BL														15	40				9		
OHIO																								
Wooster 7/27-8/2			3BL	119			2										83	26	65		2			
OREGON (Counties)																								
Linn 7/25-28			BL	3														1						
Marion 7/25-28			3BL	4														1						
PENNSYLVANIA (Districts)																								
Central 7/23-31			BL	13						2							3	3	36					
North East 7/23-31			BL	11															2	6				
TENNESSEE (Counties)																								
Hardeman 7/29-8/2			BL	20				9		7								40	29			2		
Madison 7/29-8/2			BL	12				8		2							1	25	21			1		
VIRGINIA																								
Blacksburg 7/26-8/1			BL	8													30		14					
Warsaw 7/26-8/1			BL	1						3					1	1	55		8					
WEST VIRGINIA (Counties)																								
Kanawha 7/30			BL		4														3		1			
Monroe 7/30			BL	9												1			49			2		
WISCONSIN																								
Hancock 7/25-31			BL												6		1	7	3					
Mazomanie 7/25-31			BL	1											2		8	1	16					

A New Species of Procecidochares (Diptera: Tephritidae) Causing Galls on Stems of Hamakua Pamakani (Ageratina riparia: Asteraceae) in Hawaii

George C. Steyskal 1/

A species of the genus Procecidochares that forms galls in the stems of the weed known in Hawaii as Hamakua pamakani (Ageratina riparia (Regel) R.M. King and H. Robinson; Asteraceae = Compositae) was collected in the State of Veracruz, Mexico and sent to Hawaii for study. The fly is very similar to Procecidochares utilis Stone (1947), which was also collected in Mexico and found to be specific to Ageratina adenophora (Spreng.) R.M. King and H. Robinson. That plant is also a weed in Hawaii and is there known as Maui pamakani.

Inasmuch as the new species shows promise for use in the control of the weed, it is here described in order that a name will be available for it. The fly was at first thought to be a host race of P. utilis, but the extent of morphological differentiation shows that it should be considered a distinct species. The adults and eggs found in the ovaries of the females are described now; it is hoped that comparative studies of the larvae, puparia, and galls of the new species and P. utilis can be made later.

Procecidochares alani Steyskal, new species (Fig. 2a-i).

ADULT: Very similar to P. utilis Stone, differing therefrom externally, so far as I am able to discover, only in pattern at tip of wing (Fig. 2h), with anterior preapical hyaline areas disjunct at tip of vein R3, area in tip of cell R3 crossing vein R5 and usually extending about halfway into cell R5. In P. utilis these hyaline areas are usually confluent across vein R3 and do not extend into cell R5, except sometimes as a small isolated spot. The only other distinctive characters that I can discern are in the postabdomen.

FEMALE: Postabdomen in profile as in Fig. 2a (including outline of egg in ovipositubus), differing from that of P. utilis (Fig. 1a) in being somewhat more slender and tapering; with broader and darker sclerotic strips in basal part of ovipositubus, longer ovipositor, both in relation to length of ovipositor sheath and absolutely (length 0.65 - 0.74 mm; in P. utilis 0.57 - 0.67 mm), with distal end of ventral struts more expanded; largest rastral spicules (Fig. 2i) shorter and less attenuate than in P. utilis (Fig. 1i); much smaller spermathecae (Fig. 2d), globular, about 0.050 mm in diameter (in P. utilis, Fig. 1d, much larger and differently shaped).

1/ Mail address: c/o U.S. National Museum, Washington, D.C. 20560.

MALE: Epandrium and cerci in profile (Fig. 2e) differing from P. utilis (Fig. 1e) in nearly straight basal outline and more rounded ventral tip of epandrium and differently shaped cerci; glans of aedeagus (Fig. 2f) differing from that of P. utilis (Fig. 1f) in details; sperm pump (Fig. 2g) differing from that of P. utilis (Fig. 1g) most obviously in more slender stem and rectangular head, which latter in P. utilis is strongly oblique to axis of stem.

EGG: Micropilar and with small projection and small area of croweded reticulations (Fig. 2b); egg of P. utilis (Fig. 1b) of about same size and shape, but with distinctly knobbed micropilar end and more expanded reticulations, which in one example were evident over entire surface of egg.

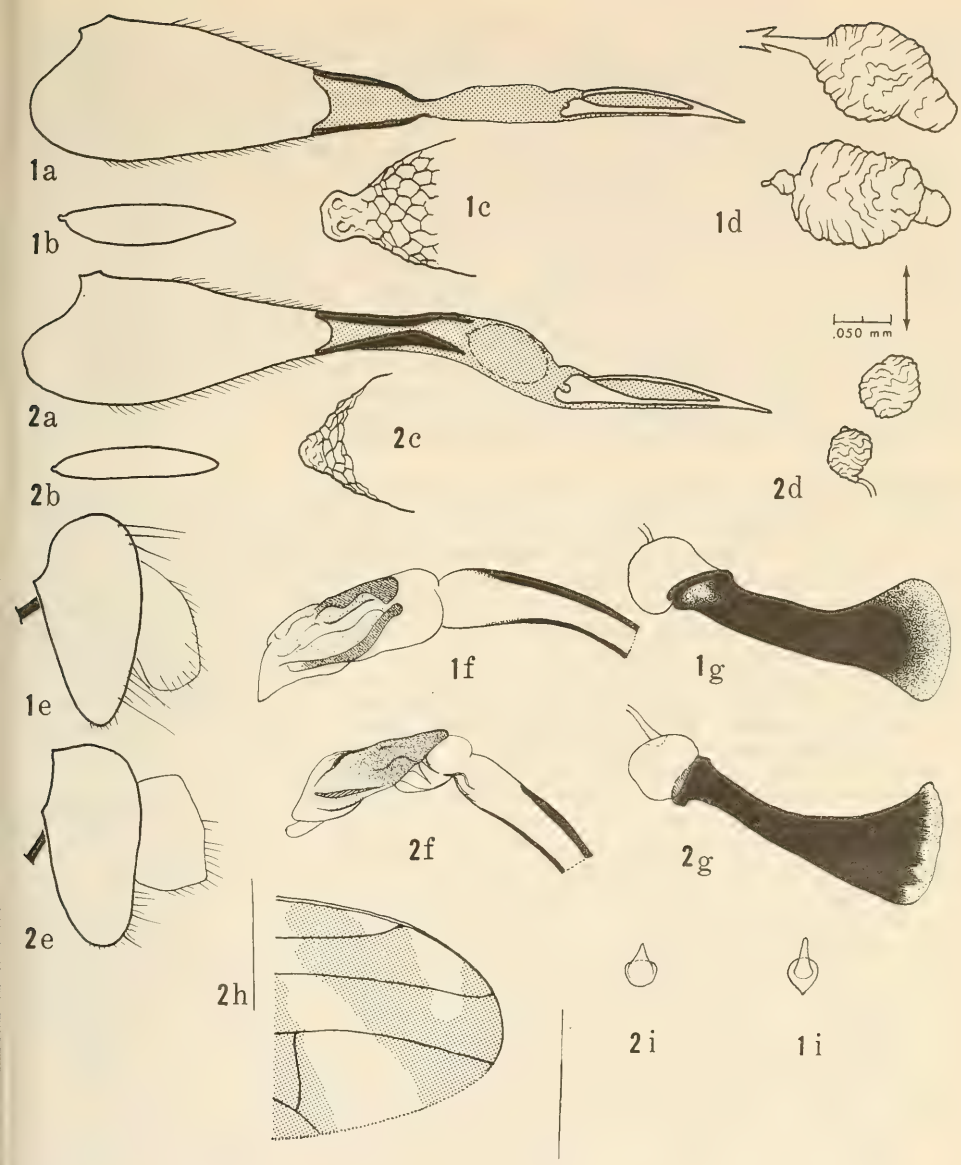
TYPES: Holotype (female), allotype, and 4 female paratypes, La Barranca del Tigre, Veracruz, Mexico, November 1973, 760 meters, x Ageratina (William E. Rose); no 73188 in U.S. National Museum.

The name alani is a noun in the genitive case, derived from the given name of my friend and colleague Alan Stone in token of his significant contributions to the study of American Tephritidae.

Reference

Stone, A. 1947. A new Procecidochares from Eupatorium stems (Diptera: Tephritidae). Proc. Hawaiian Entomol. Soc. 13: 97-98, fig. 1 (plate).

For illustrations see next page.



Legends for Illustrations

Fig. 1a-i, Procecidochares utilis Stone; Fig. 2a-i, P. alani, new species. a - female postabdomen, profile; b - egg; c - micropilar end of egg, much enlarged; d - spermathecae; e - male postabdomen (epandrium and cerci, profile); f - tip of aedeagus; g - sperm pump; h - wing, distal part; i - largest rastral spicule.

U.S. Dept. Agr., Coop. Econ. Ins. Rpt. 24(32):639-641, 1974.

Weather of the week continued from page 618.
driest areas. Thursday, scattered light to moderate rain showers, drizzle, and an occasional thundershower continued to move eastward across portions of Iowa, Kansas, Missouri, and Illinois during the morning. During the evening, heavy thunderstorms caused flash flooding in south-central Mississippi leaving 8-10 inches of water standing in parts of downtown Columbia, Mississippi. Friday, showers and thundershowers were again widely scattered over the Plateau region into the central and southern Rockies as well as over the mountains and deserts of California and generally eastward to the Atlantic. A weather system centered in Wisconsin triggered thunderstorms ahead of a cold front that extended into southwestern Texas on Saturday. Late that evening Sault Ste. Marie, Michigan, had a record downpour that produced nearly 6 inches above normal. Thunderstorms soaked the Atlantic Coast States Sunday. Strong, gusty winds marked their passage. Elsewhere, scattered thundershowers were active in parts of Texas, the Desert Southwest, and the northern Plateau.

TEMPERATURE: Cool weather brought welcome relief from hot temperatures that prevailed across the central U.S. over the past several weeks. Temperatures averaging as much as 9-10 degrees below normal were recorded in North Dakota, Minnesota, Nebraska, Iowa, and Kansas. In contrast, the Pacific Northwest reported unusually hot temeratures averaging as much as 10 degrees above normal in Oregon. Elsewhere, the interior portions of California recorded temperatures averaging as much as 6-7 degrees above normal. Monday, a cold front stretching from the central Great Lakes into the Texas Panhandle cooled hot temperatures that prevailed across the Plains over the past several weeks. Morning lows dipped into the mid-40's in parts of the Dakotas and northern Nebraska. In Omaha, Nebraska, the mercury rose to only 87 degrees which broke a string of 18 consecutive days of 90 degrees or higher. Tuesday, the temperatures warmed into the 80's and 90's over most of the country with readings well above the 100-degree mark in the Southwest. The interior sections of the Northwest were unseasonably hot with numerous highs in the 90's. Morning lows generally ranged from the 50's into the 70's on Wednesday. The coolest temperatures were reported in the northern Rockies, the upper Plains, the upper Mississippi Valley, and the Great Lakes. Thursday afternoon, temperatures in Iowa and eastern Nebraska were in the 60's while these States were surrounded by 70-degree and 80-degree readings. Temperatures remained in the 70's through the Great Lakes, Iowa, and into New Mexico on Friday. The 60's and 70's dominated the northern Plains. Saturday, a High centered in North Dakota brought cool air to the northern and central Plains setting new record lows from North Dakota to Missouri. New records were 39 degrees at Bismarck, North Dakota; 44 degrees at Casper, Wyoming; 44 degrees at Rapid City, South Dakota; 42 degrees at North Platte, Nebraska; 50 degrees at Concordia, Kansas; and 48 degrees at St. Joseph, Missouri. Sunday, a large High pressure area stretched through the Plains and brought cool Canadian air into much of central United States breaking many record low temperatures.

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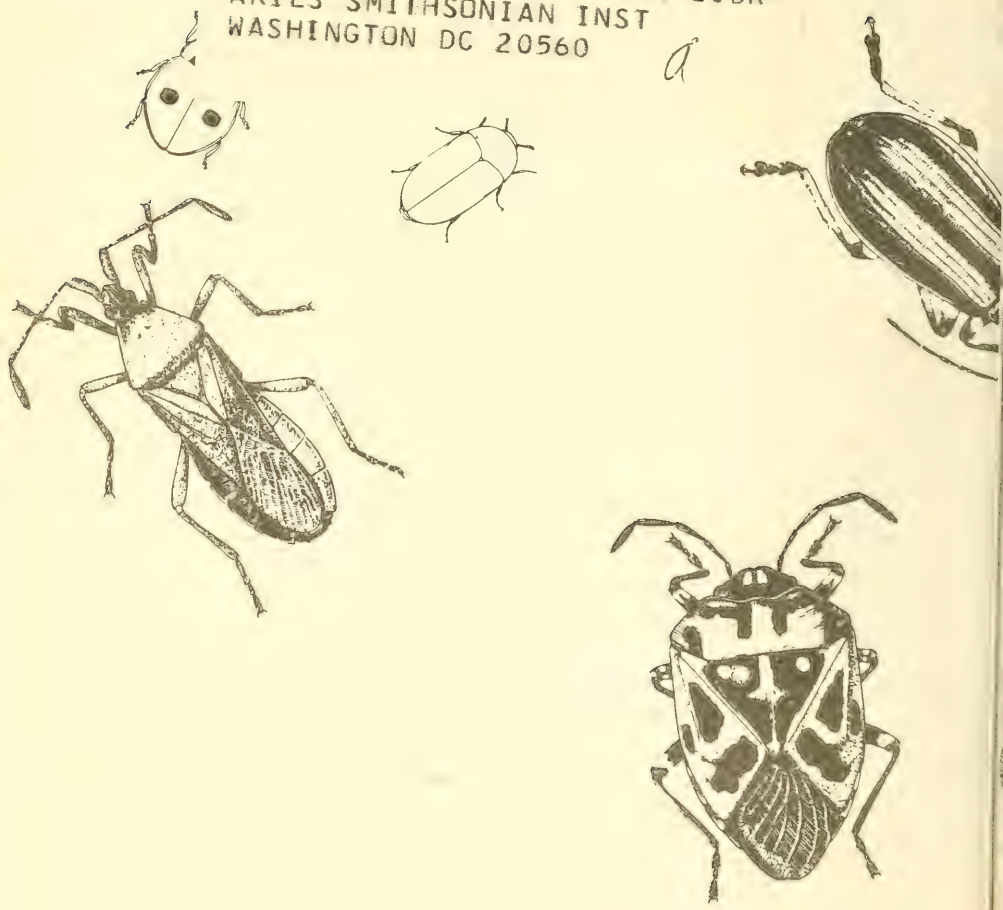

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Cooperative Economic Insect Report

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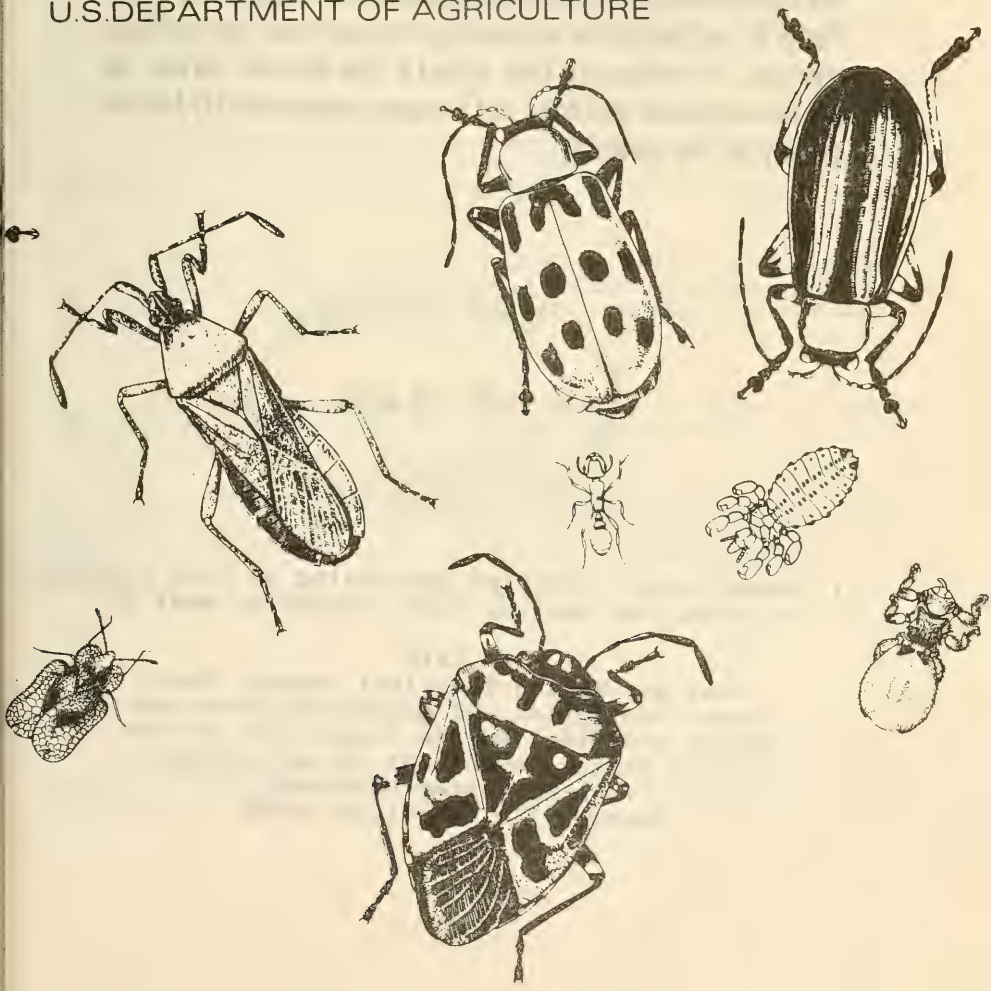
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S.DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 24 August 16, 1974 Number 33

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

GREENBUG populations near peak on sorghum in High Plains of Texas, ranged up to heavy in Oklahoma Panhandle. POTATO LEAFHOPPER serious on untreated potatoes and beans in Wisconsin, threat to alfalfa in Michigan and generally economic in Ohio. (pp. 646, 647).

EUROPEAN CORN BORER moth activity increased in Wisconsin and Michigan, larvae at threating levels in some Michigan corn. CORN ROOTWORMS damaged corn silks in some Corn Belt States. BANKS GRASS MITE heavy on corn in Oklahoma Panhandle, Texas High Plains, and in southeast New Mexico. (pp. 647, 648, 649).

BOLLWORMS variable in cotton and BOLL WEEVIL increased in some Southern States. (pp. 652, 653).

Detection

- A LADY BEETLE reported from New Jersey is a new United States record and constitutes the first report for North America. This beneficial species occurs in Europe, north Africa, and Asia. (p. 659).

- A CONIOPTERYGID reported from Pennsylvania is the first record for the United States and North America. This species of Neuroptera is native to eastern and western Europe and larvae are known to be predaceous on juniper scale. (p. 659).

- A NOCTUID MOTH collected in Hawaii is the first record of this Asiatic noctuid for the United States, but is not known to occur in the continental U.S. (p. 660).

New State records include FLORIDA FERN CATERPILLAR in Alabama (p. 655), a MIRID BUG from Hawaii (p. 660), NARCISSUS BULB FLY from Georgia (p. 656), and a SAWFLY in Alabama (p. 655).

For new county records see page 661.

Reports in this issue are for the week ending August 9 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING AUGUST 12

Reprinted from Weekly Weather and Crop Bulletin supplied by Environmental Data Service, NOAA.

HIGHLIGHTS: Rains fell across most of the Nation east of the Rocky Mountains last week. Good rains fell over the Texas High Plains for the second week. The critically dry Corn Belt area received 1 inch or more of rain while some parts of north-central and northwestern Ohio got only minimal 2 inches to over 7 inches. San Antonio, Texas, reported 7.13 inches, Tulsa, Oklahoma got 3.12 inches for the week. Temperatures were below normal across most of the Nation last week. The Great Lakes area and the interior portions of California northward through Oregon and into the Columbia River Basin in Washington were above normal for the week.

PRECIPITATION: Widespread, heavy rains fell across eastern Virginia, North Carolina, South Carolina, Georgia, Alabama, and along the Florida Peninsula averaging from 2 inches to over 6 inches last week. Isolated heavy showers were reported throughout the Midwest with amounts of one inch or more common. Over 3 inches soaked the Louisville and Lexington, Kentucky, areas. West-central Montana received 1 inch or more of rain with 2.63 inches reported at Havre. Little or no rain fell in the Far West. Monday, rainfall was heavy near the southern Atlantic coast in the south-central Plains, and on the southern Plateau. Between one inch to 3 inches of rain fell throughout north-central Texas, western Oklahoma, and south-central Kansas. Laverne, Oklahoma, and Turon, Kansas, received almost 3 inches while Abilene, Texas, Gage, Oklahoma, and Dodge City, Kansas, received 1 inch or more. Tuesday, an area of scattered thundershowers extended from southern Texas into northwest Missouri providing the first rain for some areas in many weeks. Most showers were light and of little real help to the already parched land. The heaviest activity was centered in north-central Texas. Wednesday,

Weather continued on page 664.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - TENNESSEE - Larvae present in fields of late corn in scattered areas of State. Growers and homeowners advised to check pastures and lawns regularly for larvae from now until frost. (Gordon). KENTUCKY - Damaged corn in Bath County; 70-80 percent of plants damaged at one location. (Barnett). MICHIGAN - Controls applied to 400 acres of corn and small grains in Alger County. (Norlin). OKLAHOMA - Two larvae collected from cornfield in Trupin area, Beaver County. (Okla. Coop. Sur.).

CORN EARWORM (Heliothis zea) - FLORIDA - Comprised 90 percent of pests in supervised, scouted peanut fields totaling 900 acres in southwest Alachua and Levy Counties; overall larval problem rated "very mild." Larvae attacked foliage and flowers. Only 15 percent of total acreage treated by July 31. (Fla. Coop. Sur.). GEORGIA - Moth catches increased sharply in Spalding County blacklight trap; from less than one per night to 50 per night by August 8. (Tippins). TENNESSEE - Larvae heavy in several fields of late-planted corn in State. Larvae feeding as budworms, control difficult. Only very few fields surveyed this period expected to show significant yield reduction. (Gordon). NORTH CAROLINA - Adults observed laying eggs on soybean blooms in Sampson and Duplin Counties. Light trap catches showed moth flight from corn underway. Larvae expected in 7 to 14 days on soybeans. However, fields should be scouted as disease incidence very high. (Hunt).

VIRGINIA - Survey of corn in mountainous counties in southwest area showed zero H. zea infestations in Montgomery, Botetourt, Pulaski, Franklin, Wythe, and Giles Counties, 20 percent in Roanoke County. Overall infestation 4 percent in these counties. (Allen). Damage much lighter than usual this season on Eastern Shore. Sweet corn harvested in Painter area showed about 33 percent of ears damaged this season in contrast to near 100 percent normally expected for this time of year. (Hofmaster). MARYLAND - Moth catches in blacklight traps increased, particularly in middle Eastern Shore area. Egg counts on corn silks also increased in most sections. (U. Md., Ent. Dept.).

INDIANA - Single H. zea moths taken in blacklight traps in Lawrence County July 25, Tippecanoe County July 30, and Randolph County July 31. (Barlow). ILLINOIS - Larval feeding light on ear tips of corn in St. Clair County. (Ill. Ins. Rpt.). ARKANSAS - Only occasional larvae found in grain sorghum surveyed in Ashley, Jefferson, Lincoln, and Washington Counties. (Boyer). UTAH - Blacklight trap catches decreased at Salt Lake City, Salt Lake County, and Logan, Cache County, during past 3 weeks. (Knowlton, Stephens). Larvae light in Utah County corn. (Duncan). WASHINGTON - Caused 13 percent damage to test plot of corn at Othello, Franklin County. (Antonelli).

CORN LEAF APHID (Rhopalosiphum maidis) - NEW MEXICO - Ranged 10-50 per whorl on corn and sorghum in Eddy and Chaves Counties. (N.M. Coop. Rpt.). OKLAHOMA - Some scattered heavy infestations still present in sorghum in Panhandle counties but no problems expected as populations should decline rapidly in most fields as plants mature and parasites become active. Moderate in Greer County. (Okla. Coop. Sur.). NORTH DAKOTA - Infested silage corn in Morton, Sioux, Grant, and Bowman Counties; 50-100 percent of plants infested with up to several thousand R. maidis per tassel. Some honeydew evident. Averaged 250 per plant on Sudan grass in Morton County. Colonies observed on pigeon grass in Bowman County. (Brandvik). WISCONSIN - Heavy in many cornfields. Up to 30 percent of plants in northwest area noted with colonies of 500 or more. Similar infestations common throughout central sands area. Populations much lighter elsewhere; nearly every area noted with fields having 500 or more colonies on 10 percent of plants. This is recommended treatment level. (Wis. Ins. Sur.). MARYLAND - Heavy on 5 acres of sweet corn near Temple Hills, Prince Georges County. Generally light statewide. (U. Md., Ent. Dept.).

GREENBUG (Schizaphis graminum) - TEXAS - Light to moderate damage observed in grain sorghum in Jones County. Heavy infestations damaged irrigated sorghum in Knox County; moderate infestations reported in Wilbarger County. Populations reported as near peak in High Plains. Beneficial insects increasing throughout area. (Boring et al.). OKLAHOMA - Ranged light (25 per plant) to heavy (3,000 per plant) in sorghum in Beaver, Texas, and Cimarron Counties. Continued to increase slowly in most areas but parasite activity beginning. Scattered fields treating some for second time. Greenbug light in Greer County. (Okla. Coop. Sur.). ARKANSAS - Light in Lincoln County sorghum. This is a new county record. None found in other counties surveyed. (Boyer).

NEBRASKA - Greenbug remained stable or increased; parasitism by Lysiphlebus sp. (a braconid wasp) still light, less than 4 percent over most of State. Many sorghum fields treated. Greenbug ranged 0-5,000 in 361 Clay County sorghum fields. Parasitism by Lysiphlebus sp. averaged 3 percent compared with 58 percent same time in 1973. (Gary, Keith). Greenbug heavy in 2 Lancaster County sorghum fields; 2,000+ per plant with 2-3 lower leaves dead or dying. (Roselle, Koinzan). Damage mostly light to moderate in 7 fields surveyed in Lincoln, Perkins, Chase, and Hitchcock Counties. One Perkins County field had moderate to heavy damage with lower two leaves killed. (Campbell). IOWA - Heavy on 20 acres of Sac County grain sorghum. (DeWitt).

POTATO LEAFHOPPER (Empoasca fabae) - WISCONSIN - Still serious problem on untreated potatoes and beans. Seldom exceed one per sweep on commercial crops in southern and central districts. Ranged 1-2 per sweep on soybeans throughout most of State. One field each on Sauk, Dane, and Rock Counties noted with 4+ per sweep. Nymphs noted on plants in all cases, problem will become more severe as nymphs mature. Ranged 3-4 per sweep on alfalfa throughout State except in very few dry, sandy fields in southern counties where up to 55 per sweep noted. Infestations about one per sweep in Bayfield County. (Wis. Ins. Sur.). MICHIGAN - Threatening populations appeared on Clinton County alfalfa; continued threat on field beans in county. (Lasher, Ruppel). INDIANA - Populations in alfalfa decreased in many fields due to

extreme drought conditions in southern districts; few immatures present. Treatments still necessary in 5 of 30 fields examined. (Frazee, Edwards). Adults and immatures still problem in northern counties. (Edwards). OHIO - Potato leafhopper adults and nymphs generally at economic or near economic levels, yellowed and stunted alfalfa common statewide. Ranged 9-11 per sweep in one Fairfield County field. (Fox). PENNSYLVANIA - Adults per sweep by county: Mercer, 0.8 in 10 to 15-inch alfalfa, controls applied, no damage reported; Lycoming, 0.5 in 6 to 8-inch alfalfa, no controls applied. (Palisin, Proseus).

SPOTTED ALFALFA APHID (Therioaphis maculata) - WISCONSIN - Up to 60 per sweep noted in central district alfalfa. Heaviest populations found on sandy soils. (Wis. Ins. Sur.). INDIANA - Averaged 20 per sweep of 14-inch alfalfa in one of few fields not yet harvested in Vermillion County. (Meyer).

TOBACCO BUDWORMS (Manduca spp.) - TENNESSEE - Larvae infested 3 of 10 tobacco fields checked; one of 3 infested fields with larvae at or above control levels. (Gregory). Topping of tobacco well underway in State; few fields being cut. (Gordon).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - MINNESOTA - First generation nearing end of cycle, few adults emerged in east-central and west-central districts. Trace moth counts noted in alfalfa as well as corn. Percent infested corn plants by district: East-central 3.7, southwest 18, west-central 6. Borers per 100 plants by district: East-central 1.3, southwest 6, west-central 10. (Minn. Pest Rpt.). WISCONSIN - Moth activity increased as nighttime temperatures increased. Warmer nightly temperatures should induce more moth activity but blacklight trap catches expected to be erratic through September depending on nighttime temperatures. Fields of late sweet corn can develop problems from second generation larvae but now appears very unlikely significant problems will develop in field corn. Most borers not yet pupated will diapause until spring 1975. Second moth flight will be comprised of only those in pupal stage to date; this flight expected to be active until end of canning season. Egg masses noted in some Walworth County fields. Most larvae in fourth and fifth instars in Chippewa, Dunn, St. Croix, Pierce, and Pepin Counties. Many second and third instars noted in one field, no pupae. Pupal populations equal or exceed larvae in central sands area. Probably most intense second-generation activity will be in central sands area on beans, potatoes, and sweet corn. (Wis. Ins. Sur.).

ILLINOIS - Feeding by second-generation European corn borer larvae in corn widespread throughout southern half of State. (Ill. Ins. Rpt.). MISSOURI - Infestations light to moderate on corn in northeast area. Egg masses ranged 2-23 per 100 plants and 8-58 percent of plants infested with first and second-instar larvae. (Munson). MICHIGAN - Threatening in scattered cornfields from Monroe to Mason Counties. (Nevel et al.). Adult activity increased. Larvae active in sweet corn, peppers, and snap beans. Spray schedules should be adjusted according to crop. (Cress). KENTUCKY - Continued to damage corn, especially in Madison County. (Barnett). MARYLAND - Moth catches in light traps declined, but egg mass counts on corn remained heavy in most sections. (U. Md., Ent. Dept.). DELAWARE - Moths averaged 30 per night in blacklight traps in western Sussex County. (Burbutis).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - OKLAHOMA - Second-generation larvae present in most cornfields in Beaver, Texas, and Cimarron Counties; infestations light in most fields. One late-planted Texas County field noted with 17 percent of emerging tassels infested. (Okla. Coop. Sur.). ARIZONA - Damaged untreated, late-planted sorghum in Marana area of Pima County. (Ariz. Coop. Sur.).

FALL ARMYWORM (Spodoptera frugiperda) - MISSISSIPPI - Continued to infest pretassel corn throughout State as budworms. Hardest hit areas in southern area where 90-100 percent of plants infested. In central and northern areas, 30-60 percent of plants in fields of young corn and sorghum infested. (Robinson). ARKANSAS - Continued light in late sorghum. One field treated in Ashley County; infestation very light, treatment probably not justified. (Boyer).

CORN ROOTWORMS (Diabrotica spp.) - MISSOURI - Adults active in northeast area. D. virgifera (western corn rootworm) ranged 2-3 per plant and D. longicornis (northern corn rootworm) 0-9. (Munson). IOWA - Damage to corn silks by Diabrotica spp. increased in central part of State. Treatments applied in Cedar, Franklin, and Sac Counties where beetles ranged 10-15 per plant in various fields. (DeWitt). ILLINOIS - Adults of D. virgifera and D. longicornis ranged 0-9 per corn plant in Logan, Woodford, and Peoria Counties. (Ill. Ins. Rpt.). MICHIGAN - Adults caused much damage to green silks of field corn which had been treated at planting time in Eaton County. D. virgifera and D. longicornis adults generally abundant in corn-growing areas of State. (Ruppel et al.).

WISCONSIN - Many Diabrotica spp. larvae and pupae still in soil in Dane and Crawford Counties. Adult emergence still heavy at Arlington, Columbia County. Cooler temperatures slowed emergence and oviposition will last longer than normal. Adult populations highly variable. Heavier in corn in which silks just beginning to brown; few adults found in fields with little or no silking. Average population in well-silked fields less than one per plant, 5-6 per plant noted in some fields. Up to 15 per plant noted in one Dane County field. Heavy lodging (50 percent) noted in margins of one Walworth County field. Average of 12 percent lodging noted in Crawford County field. Due to many late fields of corn, heavy populations could appear in some fields and cause much damage by cutting silks. (Wis. Ins. Sur.).

MINNESOTA - Preliminary results of adult Diabrotica spp. survey showed generally light populations, but occasional fields have heavy counts and much lodging. Beetles averaged 1.03 per plant in 2 east-central district counties; lodging 90+ percent in several fields. In 5 McLeod County fields surveyed no beetles found. Most beetles still found in leaf axils but some feeding on silks. (Minn. Pest Rpt.). SOUTH DAKOTA - Adults of D. virgifera and D. longicornis found in most cornfields. Ratio of males to females higher than normally expected in several infested fields in Brookings, Lake, and Lincoln Counties. Lowest ratio of males to females was 7:1. (Walgenbach, Kantack).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - UTAH - Adults heavy in many cornfields in Cache and Boxelder Counties. (Roberts et al.). OKLAHOMA - Adults still light in most cornfields in Panhandle counties. Some D. undecimpunctata howardi (southern corn rootworm) adults also present. (Okla. Coop. Sur.). NEBRASKA - Averaged 0.86 per plant in 340 Clay County fields. Ranged 2-8 per plant in 5 cornfields per county in Lincoln, Perkins, Chase, Dundy, and Hitchcock Counties. Overall averages ranged 3-4 per plant. (Keith). MICHIGAN - Adults collected from corn near Perry, Shiawassee County, and near Milford, Oakland County, August 5, 1974, by T. Montei and L. Verwey. Determined by R.F. Ruppel. Confirmed by R.J. Sauer. These are new county records. (Sauer).

SORGHUM MIDGE (Contarinia sorghicola) - MISSISSIPPI - Adults ranged 6-10 per head of blooming sorghum in Noxubee, Oktibbeha, and Montgomery Counties. (Robinson). TEXAS - Midge emergence to date in counties near Lubbock lighter than 1973. Midge emergence observed from Johnson grass in sorghum collected last 14 days of July. (Green).

BANKS GRASS MITE (Oligonychus pratensis) - NEW MEXICO - Corn in Chaves County continued to dry up due to heavy population. About 4,000-7,000 acres affected. Ensilage cutting underway in attempt to salvage portion of crops. (N.M. Coop. Rpt.). TEXAS - Continued to increase on sorghum in Pecos and Reeves Counties. Reported heavy in some grain fields in Tom Green County near San Angelo. O. pratensis reported from throughout High Plains counties near Lubbock and Amarillo. Some infestations in corn treated in Lamb County. Scattered infestations needing treatment reported from Amarillo area. (Boring et al.). OKLAHOMA - Still heavy in untreated cornfields in Texas County; populations not increasing due to cool, wet weather past 14 days. Generally light in Beaver and Cimarron Counties. (Okla. Coop. Sur.).

SMALL GRAINS

HESSIAN FLY (Mayetiola destructor) - ILLINOIS - Summer survey of wheat stubble indicated very light population, same as past several years. Heaviest count, 10 puparia per 100 tillers, found in Jersey County. Average for 10 counties surveyed 1.8 puparia per 100 tillers. Counts per 100 tillers by county: Adams 1, Mason 1, Jersey 10, Clark 2, Saline 2, Wayne 2; zero in Morgan, Effingham, Shelby, and Clinton Counties. (Ill. Ins. Rpt.).

TURF, PASTURES, RANGELAND

CHINCH BUG (Blissus leucopterus leucopterus) - MISSISSIPPI - Caused very minor problems in turf, pastures, and rangeland this season compared with 1973. Possibly due to more frequent rains in southern area. (Robinson).

GRASSHOPPERS - KENTUCKY - Adults and nymphs of various species averaged 150 per 100 sweeps in roadside grasses, mostly fescue, in Nicholas County. (Barnett).

FORAGE LEGUMES

EUROPEAN ALFALFA BEETLE (Subcoccinella vigintiquatuorpunctata) - OHIO - Adults collected on bouncing-bet in Cuyahoga County July 24, 1974, by W. Purgent. Determined by R.D. Gordon. This is a new county record. (Roach). PENNSYLVANIA - Adults found along railroad at Wernersville, Berks County, July 26. About 10 adults found apparently aestivating under rocks beneath damaged bouncing-bet; one adult beaten from plants. At Hershey, Dauphin County, 5 adults taken in duff sample beneath bouncing-bet along railroad July 29; one adult beaten from foliage. At Lebanon, Lebanon County, adults scarce on bouncing-bet August 5 where they had been abundant during late June to early July. No eggs or evidence of any recent feeding found. (Wheeler).

BLACK BLISTER BEETLE (Epicauta pennsylvanica) - NORTH DAKOTA - Heavy in some alfalfa in Grant, Bowman, and Slope Counties. Up to 500 per 100 sweeps in Grant County; up to 4,500 in Bowman County, and 5,000 per 100 sweeps in Slope County. These observations in very poor stands of second-cutting alfalfa which will not be cut for hay. (Brandvik).

PEA LEAF WEEVIL (Sitona lineatus) - WASHINGTON - Severely damaged new alfalfa planting at Pullman, Whitman County. (Antonelli, Allen).

ALFALFA WEEVIL (Hypera postica) - MICHIGAN - Larvae still common in field of alfalfa near Ovid, Clinton County, July 31. This very unusual as most larvae have pupated by early July. (Tessar, Ruppel).

PEA APHID (Acyrthosiphon pisum) - WISCONSIN - General increase noted throughout southern and western counties as far north as St. Croix and Dunn Counties. Populations in alfalfa at about 10 per sweep in southwest area, up to 110 per sweep in south-central and east-central districts. Generally ranged 15-20 per sweep. Averaged about 3 per sweep in Bayfield and Langlade Counties. Populations variable due to parasitism and development of alfalfa. (Wis. Ins. Sur.). NEVADA - Only occasional specimens found in Lincoln County, alfalfa hay fields and Stone Cabin Valley, Nye County, alfalfa seed fields. (Barclay, Bechtel).

GRASSHOPPERS - MINNESOTA - Economic along many roadsides. Counts up to 80 per square yard reported in southeast district. Little migration into adjacent fields has occurred, no significant damage in field margins of crops reported. Warm, dry weather aiding nymphal survival, but development on or slightly behind schedule. Many still in third and fourth instars. (Minn. Pest Rpt.). MISSOURI - Heavy populations of Melanoplus spp. observed in red clover in central and northeast areas. Ranged 4-13 per square yard. (Munson).

ALFALFA BLOTCH LEAFMINER (Agromyza frontella) - MAINE - Caused light to moderate damage to alfalfa in several areas checked; generally, damage not severe enough to warrant control. (Gall). NEW YORK - Mines observed in Otsego County on second and third-cutting alfalfa August 8 mostly in full-blotch stage; many empty mines indicate high percent second-generation pupation. Plants with mines evident throughout entire fields surveyed. (Sliwa, Reidhead). PENNSYLVANIA - Adults averaged 5 per sweep in alfalfa at Balls Mills, Lycoming County. No larval damage reported. (Proseus).

SOYBEANS

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Larval counts and foliage damage began to increase on soybeans on Eastern Shore. (U. Md., Ent. Dept.). VIRGINIA - Larvae and new adults moderate in few fields in Northumberland County. Control not yet warranted as counts not high enough and predators are heavy. (Allen). INDIANA - Heavy populations reported in scattered fields throughout State south of U.S. Interstate Highway 70; treatment probably necessary in some instances. (Edwards).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MINNESOTA - Found in southwest district fields. Although infestations averaged less than one percent, some fields appear heavily damaged with many holes in leaves. Populations usually heavier in field edges giving false impression of extent of damage. (Minn. Pest Rpt.). OHIO - Complex of this species and Diabrotica undecimpunctata howardi (southern corn rootworm) can be found in soybeans statewide; much more prevalent than for past 2 years. Beetles ranged 1-2 per 3 plants on marginal 15-20 rows and one per 5 plants in more interior rows in fields checked in Madison and Allen Counties. Noneconomic damage found on 100 percent of plants examined; ranged from one leaf to 60 percent of leaves per plant with damage. (Fox). MISSISSIPPI - C. trifurcata ranged 4-5 per sweep in several soybean fields in Montgomery, Noxubee, Chickasaw, and Monroe Counties. No economic damage noted. (Robinson).

GREEN CLOVERWORM (Plathypena scabra) - ILLINOIS - Larvae found in all fields checked, but at noneconomic levels. Counts per 100 sweeps averaged 27 (range 20-50) in west-southwest district, averaged 41 (range 15-65) in central district. Very small larvae averaged 15 per 3 row feet in one Warren County field. (Ill. Ins. Rpt.). MISSOURI - Light in northeast area soybeans. Averaged 6 small larvae per row foot in one isolated infestation. (Munson). NORTH CAROLINA - Observations in 10 fields in Duplin and Sampson Counties revealed relatively light population for early August. Heavy mortality from disease observed. High humidity past 14 days very conducive to diseases. (Hunt). ALABAMA - Light, ranged 1-2 per 3 row feet, in all Sumter County soybean fields. Oviposition light to moderate. (McQueen).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - OKLAHOMA - Heavy, damaged experimental plots of soybeans in Perkins area, Payne County. (Okla. Coop. Sur.). SOUTH CAROLINA - Damaged soybeans in Saluda County and butter peas in Horry County. (Thomas). These are new county records. (McCaskill).

PEANUTS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - FLORIDA - Economically damaging in 50 acres of sandhill land peanuts near Williston, Levy County, and in area of supervised, scouted peanut fields in southwest Alachua and Levy Counties. (Fla. Coop. Sur., July 31). TEXAS - Decreased in peanut fields throughout Comanche County. Rainfall ranged 0.2-4 inches causing sizable population reduction. Populations reported light in peanut fields in Uvalde area with less than 2 percent of fields infested. (Curtis, Stewart). OKLAHOMA - Moderate in Atoka County peanuts. (Okla. Coop. Sur.).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - GEORGIA - Generally heavy across peanut belt. (French).

COTTON

BOLLWORMS (Heliothis spp.) - NORTH CAROLINA - H. zea (bollworm) eggs and young larvae appeared on cotton in Scotland and Edgecombe County areas. Controls underway in most fields in cotton-growing areas of Coastal Plain. (Ganyard, Bradley). TENNESSEE - Heliothis spp. larval-damaged bolls ranged 0-4 percent in all areas. (Patrick, Cagle). GEORGIA - Square damage 6 percent in Oconee County; 3 live larvae observed. (Roper). ALABAMA - Generally light throughout State. Larvae heavy, 20-90 per 100 cotton stalks, in isolated fields. General rains occurred throughout State; although helpful to cotton, will interfere with routine treating and will cause difficulty of maintaining controls for bollworms and other cotton pests. (Smith et al.). MISSISSIPPI - Oviposition relatively light, ranged from one percent in Coahoma and Tallahatchie Counties to 3 percent in Noxubee County. Damaged squares averaged 3 percent in 36,000+ acres throughout State. (Robinson).

ARKANSAS - H. zea and H. virescens (tobacco budworm) infestations extremely variable over State. Number of fields requiring treatment relatively low for time of year. Of 279 Heliothis spp. larvae collected in Ashley, Desha, Jefferson, and Lincoln Counties, 244 determined H. zea and 35 H. virescens. Of 1,127 moths collected during period July 27 to August 7 in 10 light traps at 7 locations, 1,121 determined H. zea and 6 H. virescens. This indicates extreme variability of moth counts in various areas. Number of H. zea moths on sugar lines light. Heaviest count per one-half mile of row was 15 in Pulaski County August 2. (Boyer). OKLAHOMA - H. zea eggs ranged 4-16 per 100 terminals, larvae 3-22 per 100 terminals, and damaged squares 2-24 percent in Jackson, Kiowa, Tillman, Harmon, and Greer Counties. (Okla. Coop. Sur.).

TEXAS - H. zea and H. virescens larvae damaged irrigated cotton in Uvalde and south-central areas. Lush growth in fields enhanced oviposition and egg hatch. Heaviest infestations in south-central area in Brazos River bottoms of Brazos, Burleson, and Robertson Counties. H. virescens comprised 90 percent of larval population in Lamar County fields. Square damage ranged 1-30 percent in Knox County fields, 5-10 percent in Fisher County. Light infestations reported in fields in Foard, Stonewall, and Wichita Counties. In Reeves and Pecos Counties, egg counts ranged light to heavy with 3-10 small larvae per 100 plant terminals and 3-19 percent damaged squares. In Glasscock, Reagan, and Upton Counties, eggs heavy in fields behind irrigations. Numerous H. virescens moths and larvae found in fields in Glasscock, Reagan, Pecos, and Reeves Counties. In San Angelo area, H. zea egg counts ranged up to 300 per 100 terminals in some areas under irrigation. (Stewart et al.).

NEW MEXICO - H. zea continued to damage cotton crop in Eddy and Chaves Counties with up to one larva per 2 plants in some fields. In Dona Ana County, 7 larvae per 100 plants observed with only 9 damaged squares and 10 eggs per 100 plants noted. (N.M. Coop. Rpt.). ARIZONA - Treatments applied for H. virescens and H. zea at Elfrida, Cochise County. (Ariz. Coop. Sur.).

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Weevils numerous and increased where treatments not applied in south-central area. Caused extensive damage throughout much of central and north-central areas. Heavy infestations caused 40-60 percent square damage in some fields in Wilbarger and Knox Counties; caused 5-15 percent damage in many fields in Fisher, Wichita, Jones, Foard, Knox, and Wilbarger Counties. Light activity reported from Archer, Clay, Cottle, Dickens, Motley, Stonewall, and Throckmorton Counties. In San Angelo area, damage variable depending on location. Most areas reported light square damage, 5-10 percent. (Cole et al.). OKLAHOMA - Punctured square counts by county: Ranged up to 43 percent in Tillman, up to 39 percent in Greer, up to 35 percent in Jackson, up to 9 percent in Harmon, and up to 7 percent in Kiowa. (Okla. Coop. Sur.).

ARKANSAS - Boll weevil infestations increased in many areas of State; control applications made in additional fields. Number fields requiring controls relatively low for time of year. (Boyer). MISSISSIPPI - Second generation well underway across State. Punctured squares ranged 1-12 percent on 36,000+ acres in all areas of State. Average punctured squares for State about 7 percent. Many fields in hill and southern sections have "hot spots" of 20-40 percent punctured squares. (Robinson). ALABAMA - Continued "hatchout" occurred in all fields following completion of second field generation. Damaged square infestations in direct proportion to controls; damage light but continuous in 80 percent of 600,000 acres. Damage ranged 60-90+ percent in lesser number of fields. (Smith et al.). GEORGIA - Damaged squares averaged 28 percent in Oconee County. (Roper).

TENNESSEE - Boll weevil punctured squares ranged 5-30 percent in fields surveyed in central area. (Cagle). Punctured squares ranged 0-60 percent in all parts of western area; counts generally lighter in fields where controls applied. First-generation adult "hatchout" continued in all areas of State. Growers experiencing some control difficulties as first-generation "hatchout" began about 14 days ago and will continue next 10-14 days in many areas. Overlapping of first and second-generation weevils expected in many fields. Percent punctured squares by county: Gibson 0-28, McNairy up to 60, Henderson mostly less than 20. (Patrick et al.).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Adults ranged 11-17 and nymphs averaged 13 per 100 sweeps in Dona Ana County; caused some flaring of cotton squares. (N.M. Coop. Rpt.). TEXAS - Light to moderate in isolated cotton fields in Pecos and Reeves Counties. (Neeb).

BANDEDWING WHITEFLY (Trialeurodes abutilonea) - ALABAMA - Damaging populations developed in several Autauga County cotton fields. Adult clusters occurring at top of plants. (Smith et al.). MISSISSIPPI - Minor problem in most cotton fields to date. Where chemical treatments used repeatedly, buildup slow past 14 days. (Robinson).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - ALABAMA - Damaging populations developed in several Autauga County cotton fields. (Smith et al.).

TOBACCO

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Heavy on 50 acres of late tobacco in Calvert County. (U. Md., Ent. Dept.). KENTUCKY - Heavy in Bourbon and Robertson Counties. About 50 percent of burley tobacco blooming, about 20 percent already topped. (Barnett).

MISCELLANEOUS FIELD CROPS

SUNFLOWER MOTH (Homoeosoma electellum) - SOUTH DAKOTA - Infestations in sunflower reported in several northeastern counties. (Walgenbach, Kantack).

POTATOES, TOMATOES, PEPPERS

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - More prevalent throughout State. Some adults observed in potato fields in Portage and Waushara Counties. Adults heavy in Rock County soybean field. Possibility remains for oviposition in beans, potatoes, and peppers. Treatment should be applied after eggs observed. (Wis. Ins. Sur.).

BEANS AND PEAS

GREEN CLOVERWORM (Plathypena scabra) - MARYLAND - Larval counts increased but not yet economic on commercial lima beans on Eastern Shore. (U. Md., Ent. Dept.).

PEA APHID (Acyrthosiphon pisum) - WISCONSIN - Increased in peas, generally ranged 15-25 per sweep in Winnebago County area. Late fields in Waupun area of Fond du Lac County quite susceptible to damage. (Wis. Ins. Sur.).

COLE CROPS

IMPORTED CABBAGEWORM (Pieris rapae) - WISCONSIN - Moderate adult populations and early larval activity noted in Racine, Kenosha, Rock, and Outagamie Counties. Numerous eggs laid, growers should be alerted to future damage on cabbage, broccoli, or cauliflower heads starting to form or well formed. (Wis. Ins. Sur.).

CABBAGE LOOPER (Trichoplusia ni) - WISCONSIN - Oviposition noted in Rock County area on cabbage, eggs will hatch within 7 days. Unless properly treated, larvae will damage remainder of recently planted cole crops. (Wis. Ins. Sur.).

DECIDUOUS FRUITS AND NUTS

APPLE MAGGOT (Rhagoletis pomonella) - MASSACHUSETTS - Adults captured in traps increased considerably after July 29, with 129 taken from 20 traps in two abandoned orchards in Hampshire and Franklin Counties as compared to 38 on that date. Of those taken, 78 taken from yellow panels and 48 on red spheres. None taken from regularly treated commercial orchards. (Jensen). MICHIGAN - Adults emerged across fruit belt, expected to increase due to recent rains. (Olsen).

PECAN WEEVIL (Curculio caryae) - GEORGIA - Adult emergence from pecans heavy in Pike and Spalding Counties. (Dupree). Emergence light in Peach County; 14 adults in 800 emergence cages taken during 2-day period. (Gentry). MISSISSIPPI - Emergence expected next 7-10 days in pecan orchards where weevils known to occur. (Neel). Crop seems light throughout State. (Robinson). OKLAHOMA - Adults still emerging in Love County. Pecan trees infested to point of treatment in some areas. Emergence reported in area. (Okla. Coop. Sur.).

BLACK PECAN APHID (Tinocallis caryaefoliae) - TEXAS - Infestations increased in south-central area. In Mason County infestations building up on pecan trees treated for early season pests. Light to moderate populations reported from Brewster and Jeff Davis Counties. Pecos County reported moderate to heavy infestations with isolated trees having 2-9 aphids per compound leaf. (Boring et al.).

YELLOW PECAN APHIDS (Monellia spp.) - TEXAS - Heavy on pecan trees in Tom Green County; moderate to heavy on pecans in Jones County. Light populations reported in Upton County. Light to moderate in Glasscock, Brewster, and Jeff Davis Counties, moderate to heavy in Pecos County. Heavy population in Pecos County caused heavy honeydew deposits on foliage. Isolated trees in this county noted with 180-240 yellow aphids per compound leaf. (Boring et al.).

PECAN NUT CASEBEARER (Acrobasis caryae) - TEXAS - Second-generation larvae heavy, damaged pecans in Throckmorton and Wichita Counties. (Boring).

A SAWFLY (Eriocampa juglandis) - ALABAMA - Larvae observed defoliating walnut tree at Jasper, Walker County, July 20, 1974. Collected by R.C. Thornton. Determined by D.R. Smith. This is a new State record. (McQueen).

ORNAMENTALS

FLORIDA FERN CATERPILLAR (Callopistromyia floridensis) - ALABAMA - Larvae damaged ferns in greenhouse at Columbia, Houston County, June 7, 1974. Collected by W.N. Stephenson. Determined by D.M. Weisman. This is a new State record. (McQueen).

IRIS BORER (Macronoctua onusta) - SOUTH CAROLINA - Taken from iris in Laurens County by T.B. Reeves. Determined by D.K. Pollet. This is a new county record. (McCaskill).

DOGWOOD TWIG BORER (Oberea tripunctata) - SOUTH CAROLINA - Taken from dogwood tree in Horry County by C.M. Payne. Determined by D.K. Pollet. This is a new County record. (McCaskill).

HOLLYHOCK WEEVIL (Apion longirostre) - NEVADA - Collected on hollyhock at Eureka, Eureka County; Pioche, Lincoln County; and Ely, White Pine County. These are new county records. (Barclay, Bechtel).

NARCISSUS BULB FLY (Merodon equestris) - GEORGIA - Adults collected from narcissus and daffodil at Atlanta, Fulton County, April 12, 1974, by H.D. Pratt. Determined by F.C. Thompson. This is a new State record. (PPQ).

FOREST AND SHADE TREES

SPRUCE BUDWORM (Choristoneura fumiferana) - PENNSYLVANIA - Live and dead moths found on hemlocks in Cameron, Elk, and Clearfield Counties and in several areas north of Clearfield County. Early summer surveys revealed heavy defoliation of hemlocks over 8,900 acres in county. Defoliation moderate to heavy on 3,500 acres in Elk County. (Sevinsky). Recent reports of heavy moth populations in several western areas of State not positively associated with any known infestation in State. (Simons). See CEIR 24(31):608. (PPQ).

MOUNTAIN PINE BEETLE (Dendroctonus ponderosae) - NEW MEXICO - Destroying large stand of ponderosa pine in Tres Piedras District, Carson National Forest, Rio Arriba County. Damage also reported from Penasco District at same location. Further surveys to be conducted later in month. (N.M. Coop. Rpt.).

SARATOGA SPITTLEBUG (Aphrophora saratogensis) - MICHIGAN - Heavy in red pine plantations in Alpena and Presque Isle Counties. "Flagging" of branches readily visible. Populations appear heavier than in 1973 in many areas. (Mosher).

A PINE APHID (Eulachnus agilis) - OHIO - Heavy on Scotch pines in Wayne, Holmes, Stark, Carroll, and Portage Counties, and Austrian pines in Carroll County. (Balderston).

ELM LEAF BEETLE (Pyrrhalta luteola) - MISSOURI - Heavy throughout State: defoliated elms observed in all areas. (Munson). NEW MEXICO - Continued damage observed with eggs hatching, full-grown larvae pupating, and adult activity, all contributing to heavy defoliation of elm trees in Albuquerque area, Bernalillo County. (N.M. Coop. Rpt.). NEVADA - Caused heavy damage to elms at Caliente and Panaca, Lincoln County. (Barclay, Bechtel). CALIFORNIA - Severely defoliated elm trees at Sacramento, Sacramento County, and in areas of Sacramento and San Joaquin Valleys. Earlier treatments expired and beetles migrating into park and street trees from dooryard trees. Some elms completely defoliated and fallen leaves creating nuisance. (Cal. Coop. Rpt.).

LARGER ELM LEAF BEETLE (Monocesta coryli) - ALABAMA - Numerous large American elm trees along creek and branches defoliated by larvae in Chilton, Bibb, and Tuscaloosa Counties. Current Infestations more widespread and general than in most years. (McQueen).

A TORTRICID MOTH (Archips semiferanus) - PENNSYLVANIA - Moths and dead larvae found in oaks south of Caledonia, Franklin County; defoliation moderate on 80 acres. Defoliation observed on total of 630 acres in south-central area, much below 6,610 acres observed in area in 1973. Dead larvae found on oaks in Clearfield County; early summer survey revealed moderate to heavy defoliation on 66,228 acres, light to moderate defoliation on 59,162 acres. (Wert, Wilson).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - NEVADA - Adults active on elm at Fallon, Churchill County. This is a new county record. (Barclay, Bechtel).

CALICO SCALE (Lecanium cerasorum) - CALIFORNIA - Infested liquidambar trees at Ukiah, Mendocino County. Observed in many more locations. Infested acacia trees at Davis, Yolo County. (Cal. Coop. Rpt.).

A SAWFLY (Caliroa lineata) - WEST VIRGINIA - Damage appeared over 1,500 acres of forest land in Summers and Raleigh Counties and 15 acres in Monroe County. All red and white oak observed showing 80-90 percent foliar damage. (Bostic et al.).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 147 cases reported from continental U.S. during period July 21-27 as follows: Texas 137, New Mexico 8, Oklahoma 1, Arkansas 1. Total of 95 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 182,770,800 as follows: Texas 158,704,800; New Mexico 5,211,000; Arizona 16,047,000; California 2,628,000; Oklahoma 90,000; Arkansas 90,000. Total of 23,163,000 sterile flies released in Mexico. (Anim. Health).

HORN FLY (Haematobia irritans) - GEORGIA - Very heavy on cattle in Pike and Spalding Counties. (Dupree). MISSISSIPPI - Ranged 400-500 per head on cattle in Oktibbeha, Montgomery, Carroll, and Leflore Counties. (Robinson). TENNESSEE - Counts per head on livestock during period July 1-8 by county: Hamblen 10-30 (Walker); Madison 0-50, Hardin 0-50 (Turpen); Tipton 150+, Shelby 200+ (Swindol). IOWA - Ranged 20-150 (average 50) per head on untreated Story County herds. (DeWitt). NEBRASKA - Populations decreased, ranged 400-500 per head on untreated cattle in Arthur, Keith, McPherson, Lincoln, Logan, and Dawson Counties. (Campbell). TEXAS - Heavy in Gonzales County. Increased activity also noted in Rolling Plains, San Angelo, and Trans-Pecos areas. Heavy on cattle in Brewster, Jeff Davis, Pecos, and Crockett Counties. Moderate in Hudspeth and Upton Counties. Heavy on sheep in Crockett County. (Cole et al.).

FACE FLY (Musca autumnalis) - GEORGIA - Generally heavy on cattle in Pike and Spalding Counties. (Dupree). MISSISSIPPI - Averaged 6 per face on beef cattle in Montgomery and Carroll Counties. These are new county records. Up to 80 per face noted in Monroe and Chickasaw Counties. (Robinson). TENNESSEE - Counts per head on livestock by county during period July 1-8: Trousdale 0-15, Hamblen 0-108. Negative in Madison, Hardin, Tipton, and Shelby Counties. (Walker et al.). KENTUCKY - Averaged 18.1 per head on livestock checked in Nicholas County. Collected from livestock in Jessamine County June 2, 1974, by D. Barnett. Determined by D. Barnett. Confirmed by F. Knapp. This is a new county record. (Barnett). IOWA - Increased, ranged 5-35 (average 18) per head on untreated Story County herds. (DeWitt). NEBRASKA - Ranged 8-10 per face on cattle in canyon and river bottom pastures in Arthur, Keith, Logan, Lincoln, McPherson, and Dawson Counties. (Campbell).

STABLE FLY (Stomoxys calcitrans) - WISCONSIN - Increased in some areas and caused severe annoyance to dairy cattle in Polk and Calumet Counties. Annoyance moderate on most farms in other counties. (Wis. Ins. Sur.). IOWA - Ranged 0-8 (average 3) per leg on untreated Polk County dairy cattle. (DeWitt). NEBRASKA - Ranged 3-4 per leg on cattle in Arthur, Keith, McPherson, Logan, Lincoln, and Dawson Counties. (Campbell).

MOSQUITOES - MINNESOTA - Light traps operated in Metropolitan Mosquito Control District collected 1,248 females during period July 27 to August 2. Lowest total since mid-June. Catch continued 40 percent Aedes vexans, 40 percent Coquillettidia perturbans, and light counts of 16 other species. In evening bite collections, 48 of 88 females taken were C. perturbans and 35 were A. vexans. In 238 daytime field collections 1,378 females taken; 41 percent A. vexans, 15 percent C. perturbans, 11 percent A. stimulans. Rains August 2, 3, and 4 averaged 3 inches, resulted in medium brood of A. vexans. Sampling showed 73 percent of larvae were A. vexans, 12 percent Culex restuans. Coquillettidia perturbans larvae now attached to roots of cattails and sedges will overwinter as larvae and emerge as adults in June and July 1974. (Minn. Pest Rpt.). TENNESSEE - Very heavy in Asbury, Emoryville, and Ducktown communities of Washington County; caused much annoyance to residents. (Walker).

A LOUSE FLY (Hippobosca longipennis) - CALIFORNIA - Heavy build-up noted on cheetahs at Wild Animal Park, San Pasqual, San Diego County. Pupal deposition sites located and 50+ pupae collected. Several adults collected from cheetahs. Flies have been reported infesting bobcats, foxes, trapped feral housecat, and lion in past. (Cal. Coop. Rpt.).

GULF COAST TICK (Amblyomma maculatum) - TEXAS - Increased infestations noted throughout most counties along gulf coast. Heavy populations now reported in area. (Cole).

HOUSEHOLDS AND STRUCTURES

OLDHOUSE BORER (Hylotrupes bajulus) - SOUTH CAROLINA - Collected from residence in Greenwood County by T.J. Bryson. Determined by J.B. Kissam. This is a new county rccord. (McCaskill).

MISCELLANEOUS WILD PLANTS

A WEEVIL (Cosmobaris americana) - OREGON - One adult collected at Crane, Harney County, from lambsquarter (Chenopodium sp.) July 30, 1974, by K.J. Goeden. This is a new county record. Previously recorded from Ontraio and Nyssa areas, Malheur County, on Chenopodium and Helianthus. Larvae found mining petioles of sugar beets in this region; species not considered an economic pest. (Penrose).

BENEFICIAL INSECTS

A LADY BEETLE (Coccinella septempunctata (L.)) - NEW JERSEY - Adults collected in meadowlands near Lyndhurst, Bergen County, in vicinity of Hackensack June 28, 1973, by R.L. Jacques. Determined by R.D. Gordon. This is a new United States record and first report of this beneficial coccinellid in North America. (Race). Adults recently collected June 28, 1974, at same location. C. septempunctata occurs in Europe, north Africa, and Asia where it is predaceous on numerous species of aphids and coccids as well as larvae of some lepidopterous and weevil pests of agricultural crops. (PPQ).

A CONIOPTERYGID (Aleuropteryx juniperi Ohm) - PENNSYLVANIA - First adults collected at Harrisburg, Dauphin County, July 21, 1968, on Juniperus sp. by E.E. Simons. Since that date, adults and larvae of this neuropteron commonly collected on Juniperus spp. in Chester, Cumberland, Lancaster, Montgomery, Northampton, and York Counties, always in association with Carulaspis juniperi (juniper scale). Determined by T.J. Henry. Confirmed by M. Meinander. This is a new United States record and first report for North America. A. juniperi is native to eastern and western Europe. Larvae are known to be predaceous on C. juniperi. (Henry).

AN ICHNEUMON WASP (Eriborus terebrans) - INDIANA - Adults of this parasite of Ostrinia nubilalis (European corn borer) emerged from O. nubilalis pupae collected from corn grown for grain July 23 in Putnam County and August 1 in Kosciusko County by R. Meyer. These are new county records for E. terebrans. (Meyer).

A BRACONID WASP (Lysiphlebus testaceipes) - OKLAHOMA - This species and Aphelinus nigritus (a eulophid wasp) parasitized Schizaphis graminum (greenbug) in many sorghum fields in Beaver, Texas, and Cimarron Counties. Parasitism averaged one percent or less in all fields checked. A. nigritus slightly heavier in most fields. (Okla. Coop. Sur.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CEREAL LEAF BEETLE (Oulema melanopus) - VIRGINIA - Specimen collected in Smyth County June 28, 1974, by J.C. Callahan. Determined by R.E. White. This is a new county record. (Allen).

GRASSHOPPERS - UTAH - Very heavy on range and farms near Newton and along Cache and Box Elder County line, and west of Riverside and Portage and northeast of Plymouth, Box Elder County, and in Gunnison Valley, Sampete County. (Stephens). Infesting farms and gardens in North Ogden and Uintah areas, Weber County. (Knowlton).

GYPSY MOTH (Porthetria dispar) - MICHIGAN - First male moths of season collected in traps monitored cooperatively by Federal and State personnel. One specimen taken August 5, one taken August 6, and 7 taken August 7. Eight of these males trapped in Isabella County, one in Montcalm County. (Moore, Sauer).

JAPANESE BEETLE (Popillia japonica) - VIRGINIA - Adults moderate in ears of corn in Pittsylvania County fields; ranged up to 13 per ear. (Jones). MARYLAND - Adults heavy in suburban Prince Georges and Montgomery Counties. (U. Md., Ent. Dept.).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Infestations in cotton light in Glasscock, Reeves, and Pecos Counties. (Neeb). NEW MEXICO - Three small larvae and 3 damaged squares recovered from Dona Ana County cotton, 16 moths recovered from 6 traps. (N.M. Coop. Rpt.). ARIZONA - Treatments continued in cotton in Yuma and Maricopa Counties. (Ariz. Coop. Sur.).

WHITEFRINGED BEETLES (Graphognathus spp.) - GEORGIA - Adults defoliated field of soybeans in Lowndes County. (Kessler). Adults moderate in soybeans in Grady County. (Galbreath). ALABAMA - Adults heavy, feeding on foliage and ovipositing in all peanut fields in wide area of Houston County. (Wilson).

HAWAII INSECT REPORT

New State Records - Five adults of a NOCTUID MOTH (Anua indiscriminata (Hampson)) collected on Oahu since June 1974. Moths attracted to light and collected at Hickam Air Force Base, Manoa, and Nuuanu. Moth caught at Manoa was fertile female; eggs laid by this female hatched. Specimens determined by E.L.Todd. Species described from India, Sri Lanka (Ceylon), and the Philippines. Eucalyptus, Carea, and other Myrtaceae are listed as hosts. (Howarth, Mau). This is a new United States record but A. indiscriminata is not known to occur in the continental U.S. (PPQ). Specimens of a MIRID BUG (Stenotus sp.) collected on fountain grass (Pennisetum setaceum) near Keahole, Hawaii Island, March 5, 1974, by J.W.Beardsley. Determined by J.C.M. Carvalho. According to W.C.Gagne, genus is well represented in the Pacific area and in Africa. Heavy adult infestation observed on Bermuda grass at golf course at Keauhou, Hawaii Island, July 24, 1974. Biology of this insect unknown. (Gagne et al.). Stenotus binotatus (F.) is known to occur in the continental U.S. in several Eastern and Midwestern States. (PPQ).

General Vegetables - Tomato Pinworm (Keiferia lycopersicella) larvae heavy in about 80 acres of potatoes at Kohala, Hawaii Island. Damage severe. Larvae caused heavy damage to foliage in experimental tomato planting at Waimanalo, Oahu. (Yoshioka, Mitchell).

Man and Animals - Adult female AMERICAN DOG TICK (Dermacentor variabilis) found on dog at State Animal Quarantine Facility at Halawa, Oahu, August 1. This was third interception of this species in 30 days. Chemical eradication treatment made to prevent establishment of this tick in State; infested dogs, kennels, and surrounding areas treated with insecticide. Surveillance will continue. Small mammal survey to be conducted at facility to determine if tick established at Halawa. (Funasaki, Ikeda).

DETECTION

New United States Records - A CONIOPTERYGID (Aleuropteryx juniperi) - PENNSYLVANIA - Dauphin County. (p. 659). A LADY BEETLE (Coccinella septempunctata) - NEW JERSEY - Bergen County. (p. 659). A NOCTUID MOTH (Anua indiscriminata) - HAWAII - Oahu Island. (p. 660).

New State Records - FLORIDA FERN CATERPILLAR (Callopistromyia floridensis) - ALABAMA - Houston County. (p. 655). A MIRID BUG (Stenotus sp.) - HAWAII - Hawaii Island. (p. 660). NARCISSUS BULB FLY (Merodon equestris) - GEORGIA - Fulton County. (p. 656). A SAWFLY (Eriocampa juglandis) - ALABAMA - Walker County. (p. 655).

New County Records - CEREAL LEAF BEETLE (Oulema melanopus) VIRGINIA - Smyth (p. 659). A CONIOPTERYGID (Aleuropteryx juniperi) PENNSYLVANIA - Chester, Cumberland, Lancaster, Montgomery, Northampton, York (p. 659). DOGWOOD TWIG BORER (Obera tripunctata) SOUTH CAROLINA - Horry (p. 656). EUROPEAN ALFALFA BEETLE (Subcoccinella vigintiquatuorpunctata) OHIO - Cuyahoga (p. 650). FACE FLY (Musca autumnalis) MISSISSIPPI - Montgomery, Carroll. KENTUCKY - Nicholas (p. 658). GREENBUG (Schizaphis graminum) ARKANSAS - Lincoln (p. 646). HOLLYHOCK WEEVIL (Apion longirostre) NEVADA - Eureka, Lincoln, White Pine (p. 656). AN ICHNEUMON WASP (Erioborus terebrans) INDIANA - Putnam, Kosciusko (p. 659). IRIS BORER (Macronoctua anusta) SOUTH CAROLINA - Laurens (p. 655). LESSER CORNSTALK BORER (Elasmopalpus lignosellus) SOUTH CAROLINA - Saluda, Horry (p. 651). OLDHOUSE BORER (Hylotrupes bajulus) SOUTH CAROLINA - Greenwood (p. 658). SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) NEVADA - Churchill (p. 657). A WEEVIL (Cosmobaris americana) OREGON - Harney (p. 659). WESTERN CORN ROOTWORM (Diabrotica virgifera) MICHIGAN - Shiawassee, Oakland (p. 649).

CORRECTIONS

CEIR 24(30):569 - First paragraph, tenth line from bottom: Lysiphebus sp. should read Lysiphlebus sp.

CEIR 24(30):585 - DETECTION - New State Records - AN APHID (Acyrthosiphon pelargonii) should read (Acyrthosiphon pelargonii zerozalphum).

CEIR 24(32):632 - SPRUCE BUDWORM - INDIANA - Credit should read "Barlow" not "Ballard." (Meyer).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARIZONA																								
Mesa 7/29-8/4			BL	8		135				4						2		1		1885		180	70	
FLORIDA																								
Gainesville 8/2-8			BL						3	6						2				1	1	1		
ILLINOIS (County)																								
Ogle 7/30-8/5			BL	41													26	45	56					
INDIANA (Districts)																								
South West 7/27-8/1			2BL	35													33	4	31					
West Central 7/27-8/1			2BL	14						1							3	4	7					
IOWA																								
Beaconsfield 7/28-8/3			BL	36													102	7	7					
Gilbert 7/28-8/3			BL	39													80	26	42					
KENTUCKY																								
Lexington 8/8-9			BL	2															9			5		
MICHIGAN (Counties)																								
Monroe 7/29-8/4			BL	11													146	23	19			7		
Oceana 7/29-8/4			BL	17														11	22					
MINNESOTA																								
Fergus Falls 7/31-8/6			BL																1					
Worthington 7/31-8/6			BL					3											2					
MISSISSIPPI																								
Stoneville 8/2-8			BL	21				10		85						1			12	3	24	60	66	
NEBRASKA																								
North Platte 8/2-8			BL	15				48		2					1		42	24	16					
Panhandle 8/2-8			BL	1				13											1					
NEW HAMPSHIRE																								
Lee 8/5			BL	3															8				2	

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL - blacklight; I - incandescent; MV - mercury vapor; O - other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (salt marsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Lasspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstripped armyworm)	Trichoplusia ni (cabbage looper)	Crops
NEW JERSEY																								
Seabrook 7/31-8/6			7BL	11				65		4							7							
Vineland 7/31-8/6			7BL	21				31		2							13							
NEW MEXICO																								
Las Cruces 8/5-9			BL		7					11					17								6	
NORTH DAKOTA																								
Bismarck 8/4, 6			BL										4			3								
Fargo 8/4, 6, 8			BL										1			7							2	
OHIO																								
Wooster 8/3-9			BL	11				1										13	34		5	7	4	
OREGON (Counties)																								
Linn 8/1-7			BL	2														1						
Marion 8/1-7			3BL	1														4						
PENNSYLVANIA (Districts)																								
Central 7/26-8/8			BL	10	1												8	2	11		1	2		
North East 7/26-8/8			BL	2															3		4			
SOUTH DAKOTA																								
Brookings 8/1-7			7BL	6			3										4	3	1					
TENNESSEE (County)																								
Washington 8/3-9			BL	6															2			6		
VIRGINIA																								
Blacksburg 8/2-8			BL	5						2						6	44		43					
Warsaw 7/26-8/1			BL							2					2	1	53		7					
WEST VIRGINIA (Counties)																								
Kanawha 8/5			BL																				1	
Monroe 8/6			BL	2	4														6			1		
WISCONSIN																								
Hancock 8/1-6			2BL	2													20	36	5					
Mazomanie 7/29-8/4			BL	1													35	1	1					

Weather continued from page 644.
a cold front caused widely scattered thundershowers in the northern Plateau and Rockies. Elsewhere, heavy rains during the past several days caused destructive flooding along the Lumber River in the southern portion of North Carolina. Thursday, scattered thunderstorms, rain, and hail along with a few tornadoes, were reported from the Atlantic coast across the Rockies, while heavy rains continued in the South. Some severe thunderstorms occurred in Texas, Colorado, western Kansas, Arkansas, Louisiana, and South Carolina, along with some heavy rainfall in northern Oklahoma on Friday. Saturday, thunderstorms produced locally heavy rains in the South. Isolated 2-inch rains were also reported from southwest Missouri and western Iowa and 1.25 inches at Scottsbluff, Nebraska. Sunday, thunderstorms were triggered by a cold front that trailed from the central Great Lakes into the middle Mississippi Valley. Elsewhere, widely scattered thunderstorms dumped locally heavy rains on parts of New Mexico and western Texas. Roswell, New Mexico, measured 2.32 inches of rain in only six hours.

TEMPERATURE: Cool weather blanketed most of the Nation last week. Temperatures averaging from 9 to 10 degrees below normal were reported in Nebraska, Kansas, Texas, and Wyoming. The second consecutive week of below-normal temeratures prevailed across the dry central United States. Only sections of California, Oregon, Washington, the Great Lakes, Pittsburgh, Pennsylvania, and Miami, Florida, reported temperatures near normal or above. A cool High pressure system brought new record morning low temperatures to the Nations midsection on Monday. Records were set from as far west as Casper, Wyoming, with 47 degrees and as far east as Cincinnati, Ohio, where a new record of 53 degrees was recorded. Tuesday morning, temperatures dipped to record lows in Nebraska. North Platte recorded the third record low temperature for the month with a reading of 42 degrees, while Omaha and Grand Island recorded record breakers for the fourth consecutive morning with readings of 48 degrees and 49 degrees, respectively. Wednesday, fair weather prevailed over most of the Nation west of the Continental Divide in the Plains, Great Lakes region, and Northern Atlantic Coast States, but temperatures were only in the 70's and 80's. Thursday, temperatures were below normal for the season over just about all the Nation. Highs were mostly in the 80's. Temperatures reached the 80's and 90's across the country on Friday. In the northern sections, temperatures in the 60's and 70's were recorded. Saturday, Denver, Colorado, dropped to 45 degrees setting a new record morning low. Pleasant weather continued over the Northeast as a cool, dry Canadian air mass settled over the area. Most of the area west of the Rockies enjoyed fair weather with afternoon temperatures climbing into the 80's and low 90's on Sunday.

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Cooperative Economic Insect Report

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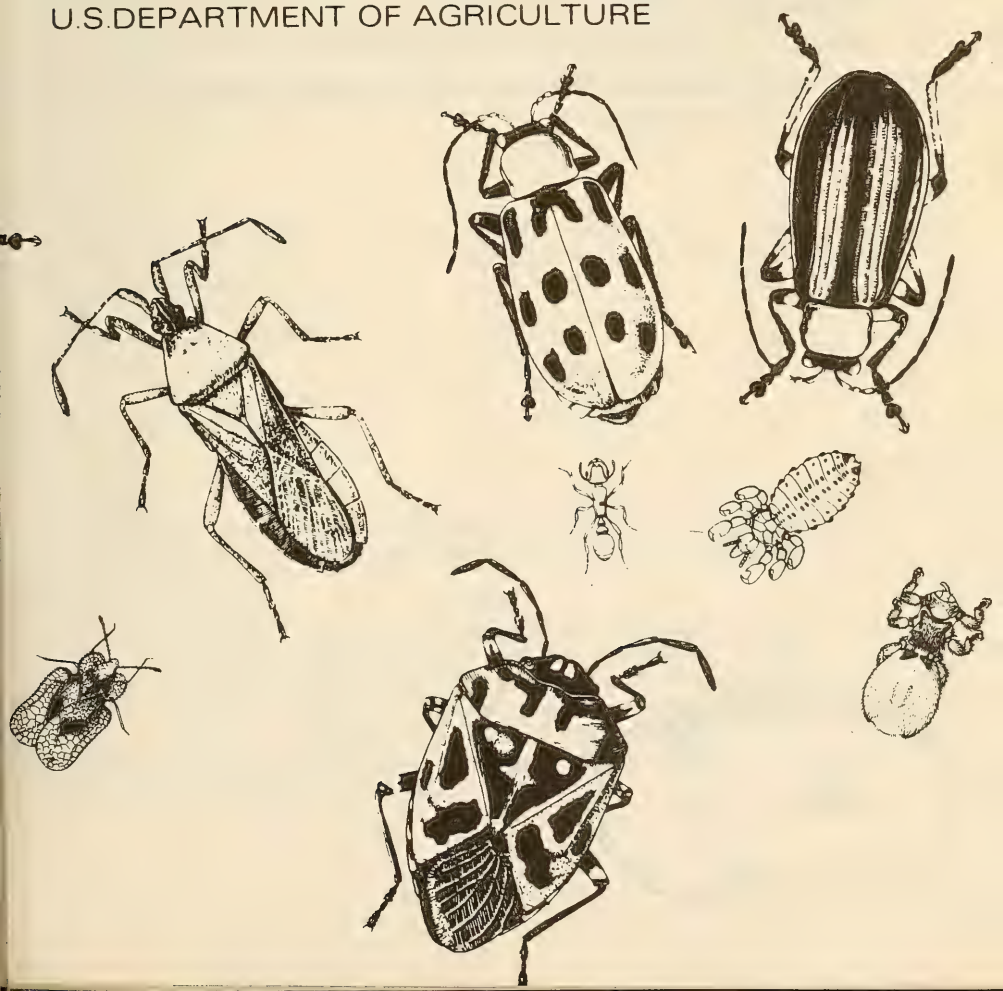

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

CORN LEAF APHID may be problem on corn in northern Illinois, continued heavy on corn in central and west-central Wisconsin. Some buildups of GREENBUG at economic levels on sorghum in north-central and northeast Kansas, near economic levels in southwest Nebraska. POTATO LEAFHOPPER at economic levels in Ohio and Indiana alfalfa. (pp. 668-669).

EUROPEAN CORN BORER moth flights increased in New York, Wisconsin, and Kansas, declined significantly in Maryland. BANKS GRASS MITE continued to increase on corn in Arkansas Valley of Colorado. (pp. 669-671, 677).

BOLL WEEVIL infestations increased in cotton in some areas, BOLLWORMS increased in cotton in scattered cotton-growing areas, infestations below normal in Arkansas. (pp. 673-676).

BLACK PECAN APHID and YELLOW PECAN APHIDS increased on pecans in south-central Texas. (pp. 678, 679).

Detection

New State records include CALIFORNIA PEARSLUG in Idaho (p. 678), a TENEBRIONID BEETLE in Maryland (p. 682), and 7 APHIDS in Vermont (p. 683).

For new county records see page 682.

Reports in this issue are for week ending August 16 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING AUGUST 19

Reprinted from Weekly Weather and Crop Bulletin supplied by Environmental Data Service, NOAA.

PRECIPITATION: Showers were reported throughout the Midwest and Northeastern United States, with locally heavy amounts. Rains averaging over 2 inches were recorded in the Oklahoma and Lincoln, Nebraska, area; Milwaukee, Wisconsin; New York, New York; and Allentown, Pennsylvania. In the South, widespread good rains of over 2 inches fell across Louisiana, Mississippi, and Alabama, while most of Texas remained dry; Del Rio got 2.44 inches causing flooding. Monday, heavy rains fell as thunderstorms moved through the Mississippi and Tennessee Valleys. Over 2 inches of rain fell in less than one hour near St. Louis, Missouri, while over 1 inch was measured at Memphis, Tennessee. Scattered thunderstorms were active again Tuesday in the Great Plains, the Mississippi Valley, and from the Great Lakes to the gulf coast. Hail up to 2.50 inches pounded parts of southeast Nebraska while 2 inches of rain fell in 45 minutes south of Glenville, Nebraska. Wednesday, a surge of unseasonably cool air from Canada, combined with rain, spread across the northern Plains. Ahead of the front, winds up to 50 m.p.h. lashed Chadron, Nebraska. Early Thursday, heavy thunderstorms occurred in the Dakotas. At least eight farm graineries were destroyed and several farm buildings damaged by tornadoes near Jamestown, North Dakota. Scattered thunderstorms persisted from New Mexico and western Texas northeastward into the upper Great Lakes. Friday, thunderstorms occurred from the Mississippi Valley to the central and south Atlantic coast and in the western Plains. Locally heavy storms dumped 3.81 inches of rain on Jacksonville, Florida. Nearly 3 inches were also reported at Daytona Beach, Florida, and 1.75 inches at Charleston, South Carolina. Many reports of damaging winds gusting up to 80 m.p.h. and golfball-size hail were received from southeast Nebraska and northeast Kansas on Saturday. Over 2.25 inches of rain fell in 20 minutes at Seward, Nebraska, when thunderstorms passed through that area.
Weather of the week continued on page 686.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - CALIFORNIA - Larvae damaged Sudan grass at Hanford, Kings County. (Cal. Coop. Rpt.). NEBRASKA - Scattered larval populations noted in 38 cornfields in Hall, Buffalo, Adams, and Kearney Counties. Heaviest infestation noted in one field of late-planted Kearney County corn, averaged 2 larvae per 10 plants. (Raun). ALABAMA - Damaged field of forage sorghum in Winston County. (Murphy). SOUTH CAROLINA - Larvae collected from Bermuda grass and millet in Darlington County August 12, 1974, by J. Loudermilk. Determined by C.A. Thomas. This is a new county record. Occurrence of larvae this late in season unusual. (McCaskill).

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - About 25 percent of all sugar beet fields in San Joaquin, Sacramento, Sutter, Butte, Glenn, Colusa, Yolo, and Solano Counties surveyed. All pepper fields seen and one of every two tomato fields checked. No curly top found in tomatoes or peppers. For most part, sugar beets showed no curly top; less than one percent noted in few fields. In Grimes area, Colusa County, one field 8.5 percent infected and with 34 leafhoppers per 100 sweeps. More recently planted beets in same area may be infected. Leafhoppers averaged 6 adults and 9 nymphs per sweep on Russian thistle checked in Belridge and Blackwells Corner area of Kern County. More thistle acreage appearing as plants too small to detect in June have grown above dry annuals. Bean field checked in Shandon area, San Luis Obispo County, showed no curly top. Five of 800 tomato plants (24 inches tall) checked were infected; younger field of 6 to 12-inch plants had one infected of 600 plants checked. Curly top ranged 1-4 percent in 4 sugar beet fields checked in area. (Cal. Coop. Rpt.).

CORN EARWORM (Heliothis zea) - MARYLAND - Moth catches in blacklight traps decreased to relatively low levels during period August 8-11 due to cool nights. Egg counts on sweet corn silks also light. (U. Md., Ent. Dept.). VIRGINIA - No infestations detected in soybeans to date. Most larvae have left corn to pupate or have emerged. (Allen). GEORGIA - Ranged light to moderate across peanut belt. (French). Adults in Spalding County blacklight trap increased. (Tippins). ALABAMA - This pest and Nezara viridula (southern green stink bug) heavy and damaged corn in many Mobile County fields. (Vickery). H. zea larvae light to medium and fed on soybean pods throughout several thousand acres in Crenshaw County. Controls not yet justified. (Smith).

ARKANSAS - H. zea larvae appeared in small percentage of fields of early and medium planted soybeans. In general, scouting of soybeans will increase next 7 days. Concentrated scouting will continue into September in order to keep abreast of situation. (Boyer). OKLAHOMA - Averaged 10 per row foot in peanuts checked in Marshall County; light to moderate in Hughes, Washita, and Caddo Counties. Averaged less than one per 10 row feet in soybeans in McCurtain County. (Okla. Coop. Sur.). NEW MEXICO - First and second instars recovered from whorls in milo near Artesia, Eddy County; up to 2 larvae per 5 plants observed. (N.M. Coop. Rpt.). UTAH - None observed to date in small cornfield at Logan, Cache County. Corn harvested for three weeks. (Burtenshaw). WASHINGTON - Infestation noted at 11 percent on experimental corn trials near Othello, Adams County. (Antonelli).

CORN LEAF APHID (Rhopalosiphum maidis) - KANSAS - Generally light in sorghum over most of State except for moderate in few fields in western area. (Bell). MISSOURI - Light to moderate on sorghum throughout southwest, west-central, north-central, and northeast areas. In west-central area colonies found on 5-39 percent of plants. (Munson). ILLINOIS - May be problem on late corn in northern two-thirds of State. About 10 percent of fields not tasseled and populations ranged 0-500+ (average 200+) per plant. Severe aphid problems encountered under similar circumstances in 1973. (Ill. Ins. Rpt.). IOWA - Light to moderate in 4 Cherokee County cornfields. (Iowa Ins. Sur.). WISCONSIN - Continued heavy on corn in central counties and some west-central counties. Winged forms developed and aphids moved from infested cornfields; often found in heavy numbers in about every crop. Counts increased greatly in some late sweet corn. Predators abundant in corn where R. maidis heavy. (Wis. Ins. Sur.). NORTH DAKOTA - Ranged up to 300 per plant on Sudan grass in Oliver County. (Brandvik).

GREENBUG (Schizaphis graminum) - TEXAS - Heavy parasitism of greenbug noted in Pecos and Reeves Counties. Populations on sorghum and corn declining in San Angelo area. Light in Wilbarger County. Heavy parasitism also noted over most of High Plains area. Greenbug heavy in some fields in Panhandle area. (Neeb et al.). OKLAHOMA - Heavy in sorghum checked in Coal County; bottom 2-4 leaves dead on most plants. Ranged light to moderate in Washita and Caddo Counties with few fields ranging up to 500 per leaf. Heavy parasitism continued. (Okla. Coop. Sur.).

KANSAS - Some economic buildups of greenbug occurred in north-central district from Smith to Washington County and in most counties of northeast district. Though no economic infestations noted, some significant buildups noted in counties surveyed in east-central district including Shawnee, Osage, Morris, and Geary Counties. Some threatening infestations remained in sorghum in counties involved in pest management program including Meade, Stevens, and Haskell in southwest district where parasitism generally light. Greenbug generally declined in west-central and northwest districts principally as result of parasitism by Lysiphlebus testaceipes (a braconid wasp) and to lesser degree due to predation by lady beetles. Parasites always present but generally not greatly slowing greenbug buildups in fields surveyed in northeast and east-central districts, except one case noted in southern Geary County where moderate infestation eliminated by wasps. Greenbug infestations in sorghum in northeast and east-central districts usually very spotty in fields; some plants or groups of plants heavily infested whereas others nearby in same field with only light to trace infestations. (Bell).

MISSOURI - Greenbug light to moderate on sorghum in west-central area. Ranged 5-9,000 aphids per plant. (Emerson). NEBRASKA - Ranged 0-8,500 in 250 Clay County sorghum fields. Parasitism by Lysiphlebus sp. (a braconid wasp) increased but still light; increased to 8.1 percent from average of 3 percent previous period. (Gary, Keith). S. graminum ranged 0-6,000 (average 1,100) per plant in 3 Antelope County sorghum fields. (Koinzan). All 3 fields checked in Adams County clean but some or all may have had previous treatment. (Raun). Populations at or near economic levels in most untreated sorghum in Lincoln County. (Campbell). CALIFORNIA - Infestations on milo required treatment in Sacramento and Yolo Counties. (Cal. Coop. Rpt.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - UTAH - Seriously infested and generally damaged 10,000 acres of alfalfa in general Delta, Deseret, and Sutherland area and nearby areas of Millard County. (Chapman). COLORADO - Found in all alfalfa checked in Pueblo, Crowley, and other counties; ranged 100-600 per 100 sweeps. (Schweissing). NEW MEXICO - Light populations appeared in alfalfa near Tucumcari, Quay County. Counts of 10-20 per 25 sweeps common in area. (N.M. Coop. Rpt.). OKLAHOMA - Averaged 165 per 10 sweeps in alfalfa in Logan County and 80 per 10 sweeps in Oklahoma County. (Okla. Coop. Sur.). KANSAS - Averaged 50 per 10 sweeps in blooming alfalfa in Osage County. (Bell).

POTATO LEAFHOPPER (Empoasca fabae) - NEW YORK - Stunted plants and yellow foliage apparent in most alfalfa fields throughout Cattaraugus and Chautauqua Counties. (Sliwa). OHIO - Adults and immatures found economically significant in 8 northwest area alfalfa fields. Heaviest infestations found in third-cutting alfalfa in 3 counties as follows (counts per sweep): Putnam 4-5.5, Henry 3-4, and Allen 2-3.5. (Fox). INDIANA - Economic, ranged up to 12 per sweep, in 12 of 28 alfalfa fields checked in northern districts. In southern districts, no counts above one per sweep encounted in 29 alfalfa fields checked. (Edwards). WISCONSIN - Continued light, 1-2 per sweep, on commercial beans and potatoes in central and west-central districts. Averaged about 3 per sweep generally in forage crops, but exceeded 25 per sweep in few fields. Ranged 1-2 per sweep in soybeans checked over State; nymphs present in most fields. (Wis. Ins. Sur.). MISSOURI - Light in 2 soybean fields in west-central area. Ranged 0-6 per sweep. (Munson).

TOBACCO BUDWORM (Heliothis virescens) - MARYLAND - Second-brood larval populations much lighter on tobacco than in 1973. (U. Md., Ent. Dept.). KENTUCKY - Very light on tobacco in central areas, averaged less than one per 100 plants. (Barnett).

TOBACCO HORNWORMS (Manduca spp.) - KENTUCKY - In central areas, larval populations light on tobacco, averaged 2.1 per 100 plants. (Barnett).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - VERMONT - Second-brood moth flight underway. Late corn should be treated if larvae problem during whorl stage. (MacCollom). NEW YORK - Moth flights increased in Geneva area, Ontario County; egg laying observed on younger stands of corn. Sweet corn will be susceptible to attack next few weeks. (Davis). DELAWARE - Moths averaged 10 per night during period August 7-13 in blacklight trap collections in western Sussex County; numbers reduced in most areas. (Burbutis). MARYLAND - Moth catches declined significantly during period August 8-11, but most sweet corn fields still need controls for young borers in silks. (U. Md., Ent. Dept.). KENTUCKY - Continued to damage corn. About 45 percent of corn in dough stage, with 15-20 percent dented or beyond. (Barnett).

MICHIGAN - European corn borer populations increased; growers of susceptible crops should continue control programs and regular schedule. (Cress). INDIANA - Occasional pupae observed in corn in southwest district. (Meyer). WISCONSIN - Moths increased greatly in blacklight traps; 148 taken in one trap at Hancock, Waushara County, August 12. Egg masses evident in corn as far north as Portage County but not abundant in any field checked. Situation expected to change next 7 days. Pupae more evident; comprise about 50 percent of population in western counties as far north as St. Croix and Dunn Counties. Abundant in central counties in few potato fields as well as corn. Many pupae and pupal cases noted in small corn in northern Columbia County. In Green County, small larvae fed in 10-30 percent of plants in field of late sweet corn. In commercial sweet corn areas, much egg laying will occur on late fields; up to 25-60 percent of ears infested with small larvae not uncommon late in season. Very few late fields of sweet corn available in central area for egg laying, but bean and potato fields abundant. (Wis. Ins. Sur.).

NEBRASKA - Second-brood European corn borer populations mostly light and scattered with heaviest populations in late-planted fields. Ranged 2-4 first-instar larvae and one egg mass per 10 plants in one late-planted Kearney County cornfield. (Raun). KANSAS - First-generation moth flights continued light at most stations; however, recent heavy flight indicated at Rossville, Shawnee County. (Bell).

FALL ARMYWORM (Spodoptera frugiperda) - MARYLAND - Larval infestations ranged 5-40 percent on late corn in Montgomery and Frederick Counties. (U. Md., Ent. Dept.). KANSAS - Few light infestations reported in whorls of late sorghum in southeast and southwest districts. (Bell). MISSISSIPPI - Infestation still 100 percent on 25 acres of corn in Pearl River County. Corn meant for silage, expected to be low grade. (Robinson).

SORGHUM WEBWORM (Celama sorghiella) - OKLAHOMA - Ranged up to 4 per head in sorghum checked in Coal County. This is first report of season. (Okla. Coop. Sur.).

CORN ROOTWORMS (Diabrotica spp.) - KANSAS - Instances of serious root damage related to insecticide failures in corn still reported from northwest district. Adult infestations generally declined over most of State. Most corn past stage where beetles could cause damage. (Bell). WISCONSIN - Adult emergence about complete in southern and western counties; few pupae and new adults still in soil. Adult counts variable among fields in southern half of State. (Wis. Ins. Sur.).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - OHIO - Intensive adult survey conducted in Mercer, Allen, Lucas, Putnam, Hancock, Wood, Williams, Henry, and Paulding Counties, in northwest area. Adults collected in Williams County August 12, 1974, by Gevas and Reinheimer; Henry County August 13, 1974, by Reinheimer and Gevas; and in Paulding County August 14, 1974, by P.R. Fox. These are new county records. This pest now known to occur in 5 counties in State. (Fox). NEBRASKA - Declining in all areas of State. Averaged 0.67 per plant in 272 Clay County cornfields. Ranged 0-6 per plant in 38 fields surveyed in Hall, Buffalo, Adams, Kearney Counties. Averaged less than one per plant in 7 cornfields on sandy

soil in Antelope County and 3 per plant in 8 fields on heavier soils in same county. (Koinzan). UTAH - Conspicuous populations of Diabrotica virgifera noted on silking corn in Cache, Weber, Box Elder, and Salt Lake Counties. (Knowlton, Roberts). Most Cache County corn treated. (Burtenshaw, Roberts).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - OHIO - Adult migration from corn to soybeans, forage legumes, and roadside grasses increased as corn silks dried. Adults averaged 0.4, 0.7, and 1.1 per ear in Licking, Paulding, and Putnam Counties, respectively. (Fox). Heaviest infestation to date noted in Mercer County field with 10-15 adults per ear. (Goleman, Lyon). Beetles averaged 5 per ear in 20-acre Delaware County cornfield. (Irvin). MARYLAND - Adults collected in blacklight trap at Cambridge, Dorchester County, July 22, 1974, by R.L. Davis. Determined by R.E. White. This is a new county record. (U. Md., Ent. Dept.).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - ALABAMA - Larvae destroyed 100 acres of 4 to 8-inch grain sorghum for silage on Perry County dairy farm. Area to be treated and replanted. (Hairston, Brady).

SORGHUM MIDGE (Contarinia sorghicola) - ARKANSAS - Survey negative in late blooming heads of sorghum near Fayetteville, Washington County. Treatments recommended in some fields of blooming sorghum in Clay County. (Boyer). MISSISSIPPI - Averaged 2 per blooming sorghum head in Noxubee and Lowndes Counties. (Robinson).

BANKS GRASS MITE (Oligonychus pratensis) - COLORADO - Continued to increase on corn in Arkansas Valley with untreated fields showing leaf loss and up to twelth and fourteenth leaves severely damaged. Light in many sorghum fields in same area with light damage. (Schweissing). TEXAS - Decreased activity reported on grain sorghum in San Angelo and Trans-Pecos areas. Heavy infestations reported in irrigated grain sorghum fields in Knox County. Populations reported controlled throughout Panhandle area by cool, damp weather. (Neeb et al.). NEW MEXICO - Killed corn in San Juan County. Substantial populations on few remaining corn plants in Eddy and Chaves Counties not moved to adjoining milo to date. (N.M. Coop. Rpt.).

TURF, PASTURES, RANGELAND

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Larvae ranged 8-36 per square yard on about 10,000 acres of range in northeastern Lincoln County, 16 miles west of U.S. Highway 285 and 0.6 mile north of State Highway 42. Grass in excellent condition in area, little damage expected. (N.M. Coop. Rpt.).

TWOLINED SPITTLEBUG (Prosapia bicincta) - FLORIDA - Adults abundant and causing concern to owner of Pangola grass pasture at Ruskin, Hillsborough County. (Fla. Coop. Sur.). ALABAMA - Infestations lighter than usual this season. Adults light in grass lawns in Dale and Lee Counties. (Stephenson et al.).

GRASSHOPPERS - KENTUCKY - Adults and nymphs of various species averaged 130 per 100 sweeps in roadside grasses, mostly fescue, in Woodford County. (Barnett).

FORAGE LEGUMES

GUAR MIDGE (Cecidomyia texana) - TEXAS - Heavy larval infestations reported from guar fields in Hardeman, Haskell, and Knox Counties. Midge populations generally reduced by moisture either from rain or sprinkler irrigation. (Boring).

ALFALFA CATERPILLAR (Colias eurytheme) - COLORADO - Increased in alfalfa in Arkansas Valley; larvae ranged up to 600 per 100 sweeps in some fields. (Schweissing).

GARDEN WEBWORM (Loxostege rantalis) - NEW MEXICO - One terminal per 10 plants tied off in alfalfa near Hagerman, Chaves County. Recent rains may retard further cutting of alfalfa and substantial damage may result. (N.M. Coop. Rpt.).

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Ranged 4-6 per 10 sweeps in alfalfa checked in Logan and Oklahoma Counties. (Okla. Coop. Sur.).

BLACK BLISTER BEETLE (Epicauta pennsylvanica) - NORTH DAKOTA - Ranged up to 200 per 100 sweeps on alfalfa in Oliver County. Averaged 500 per 100 sweeps of roadside kochia in Golden Valley County. (Brandvik).

ALFALFA WEEVIL (Hypera postica) - KENTUCKY - Eggs averaged 10.3 per square foot at one location in Fayette County. Visual damage by third and fourth instars evident. (Barnett, Parr).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Ranged 6-10 per 10 sweeps in alfalfa checked in Logan and Oklahoma Counties. (Okla. Coop. Sur.).

GRASSHOPPERS - OHIO - Statewide populations of longhorn and shorthorn species increased rapidly in clovers and in second and third-cutting alfalfa. In northwest area, counts ranged 5-14 per 50 sweeps. Counts heavier in Muskingum (1-2 per sweep) and Fairfield (1 per 2 sweeps) Counties. Most not full grown. (Fox, Dowell).

SOYBEANS

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Egg laying on Eastern Shore expected to increase during mid to late August; larval populations should peak first 14 days of September. (U. Md., Ent. Dept.). VIRGINIA - Populations and damage remained spotty, only early planted soybeans showed most damage. New generation of adults appeared in Virginia Beach and Northumberland County; populations may soon "mushroom." Farmers advised to check fields weekly. (Allen).

GREEN CLOVERWORM (Plathypena scabra) - ILLINOIS - Populations still noneconomic throughout State, although increased slightly over last week. Heaviest area in north-central region. Heaviest county and individual field averaged 45 and 100 larvae per 100 sweeps, respectively, in La Salle County. (Ill. Ins. Rpt.). MISSISSIPPI - Larvae light in all soybean fields surveyed. Field averages ranged 2-8 per 25 sweeps in Noxubee, Lowndes, Clay, Monroe, and Chickasaw Counties. (Robinson).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - FLORIDA - Larvae averaged 8 per row foot and caused economic defoliation in 100-acre soybean field at Alachua, Alachua County. (Fla. Coop. Sur.).

BEET ARMYWORM (Spodoptera exigua) - GEORGIA - Heavy in 600-acre soybean field in Macon County. Treatments required. (Hewberry).

CABBAGE LOOPER (Trichoplusia ni) - OKLAHOMA - Moderate in soybeans in Muskogee and McCurtain Counties. (Okla. Coop. Sur.).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Continued heavy in soybeans in Muskogee and McCurtain Counties. (Okla. Coop. Sur.).

PEANUTS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ALABAMA - Infestation as heavy or heavier than ever known in 20,000 acres of peanuts grown in Barbour County. Critical damage period is from now until harvest. Larvae heavy and damaged limbs, pegs, and roots in several fields checked in Houston County. (Roney). OKLAHOMA - Infestations declined in Marshall County peanuts due to recent rains but still ranged 25-50 percent of plants infested in untreated fields. Light infestations noted in McCurtain County. (Okla. Coop. Sur.).

GRANULATE CUTWORM (Feltia subterranea) - OKLAHOMA - Light to moderate in peanuts in Hughes, Marshall, and McCurtain Counties. (Okla. Coop. Sur.). GEORGIA - Heavy in Dooly County peanuts; ranged light to heavy across peanut belt. (French, Morgan).

BEET ARMYWORM (Spodoptera exigua) - GEOGIA - Ranged very light to heavy across peanut belt. (French). OKLAHOMA - Light on peanuts in Marshall County. (Okla. Coop. Sur.).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - GEORGIA - Heavy in Terrell County peanuts; ranged light to heavy across peanut belt. (French, Jennings).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TENNESSEE - Punctured squares ranged 1-38 percent in fields surveyed in Fayette and Hardeman Counties, average 13 percent for all fields. Of fields surveyed in these counties, 76 percent at or above control levels. (Locke). Counts in Henderson and McNairy Counties ranged 30-50 percent in fields where treatment applied. Conditions ideal for further increases in western area. Frequent rains made control very difficult. Above counts made in fields where treatments applied regularly. Second-generation "hatchout" began in these counties; overlapping of first and second-generation adults occurring in these fields. In some fields, cotton "cutting out" and second-generation adults migrating to rank fruiting cotton in area. (Patrick, Locke). Punctured squares ranged 4-25 percent in central area. Overall, population lighter than previous week. Second-generation "hatchout" just began. Some fields began "cutting out." Migration expected to begin in next few days. Rank fruiting cotton should be checked closely for increase in weevil damage during next 14 days. (Cagle).

GEORGIA - Boll weevil infestations light to heavy in cotton throughout State. Treatment needed in one percent of acreage in southern area. (Boone, Womack). ALABAMA - Square infestations by third and later overlapping weevil generations ranged 2-30 percent throughout State where controls effectively applied to 60-80 percent of 600,000 acres of cotton. Infestation heavier in northern area where controls only recently started. Infestation 30-80 percent in fields where control poor. (Smith et al.). MISSISSIPPI - Average infestation less than one percent in 272 fields in Bolivar, Sunflower, and Washington Counties. Punctured squares 30+ percent with average of 8 percent noted in some spots in Pontotoc, De Soto, Tippah, and Noxubee Counties. (Robinson).

LOUISIANA - Boll weevils continued to emerge from squares on ground during week ending August 12 and damaged square counts increased. All fields checked showed some damage, but only 9 percent of these fields had 25 percent or more damaged squares. Weevil counts heavier than for past several years; movement to previously uninfested fields should occur next several weeks. (Tynes). Percent damaged squares by parish (number of fields in parentheses) as follows: Bossier 2-19 (17), St. Landry 11-60 (13), St. Martin 1-80 (36), Rapides 1-52 (47), Catahoula 3-79 (25). Treatments applied. (St. Cloud, Coburn). ARKANSAS - Infestations increased but continued below normal for this time of year. Many fields not treated to date which in most years are on regular schedule by this time. (Boyer). OKLAHOMA - Punctured square counts ranged up to 53 percent in Tillman County, up to 27 in Jackson and Greer Counties, up to 6 in Harmon County, up to 4 percent in Kiowa County; ranged 40-50 percent in Caddo and Washita Counties, 4-30 in Grady County, 0-28 in Muskogee County, 0-2 percent in Wagoner County, 1-10 percent in McCurtain County, and averaged 40 percent in Coal County. (Okla. Coop. Sur.).

TEXAS - Dissections of boll weevil specimens collected in fields in south-central area showed 12-20 percent in diapause. Some growers in southern part of this area reported cotton defoliating. Many included treatments to control this pest. These growers planning to continue treatment at 7-10 day intervals until stalks removed from fields. Populations present in most fields where no treatments applied in north-central area. Infestations continued heavy in Knox and Wilbarger Counties. A. grandis caused 35-50 percent square damage in more heavily infested fields; damaged bolls in older fields. Damaged 4 percent of bolls in Wilbarger County field. Square damage ranged 15-25 percent in some fields in Fisher, Foard, and Wichita Counties. Activity light in Baylor, Clay, Cottle, Stonewall, and Young Counties. Populations variable in San Angelo area with 5-10 percent square damage common. Square damage 50 percent in one Tom Green County field. Populations down from 1973. (Cole et al.).

BOLLWORMS (Heliothis spp.) - ARIZONA - Eggs of H. zea (bollworm) and H. virescens (tobacco budworm) ranged 16-40 per 100 plants at Salt River Valley, Maricopa County. Infestations of 10-15 percent common around dairies where fields not being treated. (Ariz. Coop. Sur.). NEW MEXICO - H. zea damaged bolls averaged 17 and damaged squares 31 per 100 plants with up to 10 larvae recovered in Dona Ana County. Five damaged squares and 2 damaged bolls per 10 plants observed in Eddy and Chaves Counties. (N.M. Coop. Rpt.).

TEXAS - Heliothis zea and H. virescens populations increased in south-central and Trans-Pecos areas. Counties in south-central area including Brazos, Burleson, and Robertson reported heavy activity during past week. Egg counts ranged up to 10 per plant in some fields. About 95 percent of larvae H. virescens. H. zea and H. virescens problem in many fields in Dallas and Fort Worth area where treatments applied for Anthonomus grandis (boll weevil). Bollworms reported heavy in some fields in Wilbarger and Childress Counties. Bollworms caused 5-15 percent square damage in Knox, Wichita, Stonewall, and Fisher Counties. Beneficial insects kept bollworm populations well below damaging numbers in most fields throughout Rolling Plains. In Pecos and Reeves Counties bollworm eggs ranged 20-80 per 100 terminals with some isolated fields having 150-200 eggs per 100 terminals. Larvae ranged 2-14 per 100 terminals. Damaged square counts ranged 6-30 percent in surveyed fields. Bollworm activity light in Martin County. Egg hatch increased in Midland and Glasscock Counties. H. virescens moths readily detected in cotton fields in Pecos and Reeves Counties. In some fields, 50 percent of bollworm and budworm complex were H. virescens. Heliothis spp. caused 10-15 percent square damage in Tom Green, Runnels, and Blanco Counties. (Cole et al.).

OKLAHOMA - In Jackson, Tillman, Harmon, Greer, and Kiowa Counties, Heliothis spp. eggs ranged 5-22 and larvae 3-34 per 100 terminals, damaged squares ranged 2-28 percent. Damage ranged up to 80 percent in Washita and Caddo Counties and averaged 20 percent in Grady County. Eggs ranged 0-6 and larvae 0-5 per 100 terminals in Muskogee and Wagoner Counties. Eggs ranged 0-20 and larvae 0-12 per 100 terminals in McCurtain County. Eggs light in Bryan County. Damage ranged 2-12 percent in Muskogee County, 20-24 percent in Wagoner County, and 2-15 percent in McCurtain County. Larval determinations indicate H. virescens (tobacco budworm) heavy in some areas; comprised 90 percent of population in some fields in Tillman, Caddo, and Washita Counties, 30 percent in some fields in Jackson County, and 50 percent in Grady County. Of 9 large larvae collected in treated McCurtain County field, all were H. virescens. (Okla. Coop. Sur.).

ARKANSAS - Infestations of H. zea and H. virescens below normal in most areas. Many fields not treated to date which in most years are on regular treatment schedule by this time. (Boyer). LOUISIANA - Heliothis spp. egg counts per 100 terminals by parish ranged as follows (number of fields in parentheses): Bossier 17-94 (17), St. Martin 0-55 (36), St. Landry 2-57 (13), Rapides 2-350 (54), Catahoula 0-8 (25). Treatments applied. (St. Cloud, Coburn). Heliothis spp. eggs still light in fields; difficult to find but counts heavy enough to create problems if control applications not made on regular schedule. Growers advised to stay on 5-day schedule in fields already under treatment. Egg laying by H. zea (bollworm) and H. virescens (tobacco budworm) moths increased by August 16 and should be obvious by August 20. (Tynes).

MISSISSIPPI - Oviposition by Heliothis spp. moths in cotton increased throughout State. Some areas experienced locally troublesome populations of H. virescens (tobacco budworm). Larvae collected in 6 fields checked in Grenada and Yallobusha Counties, 90 percent were H. virescens. In 600 acres in Winston County where control inadequate, ratio of larvae was 3 H. virescens to one H. zea. (Robinson). ALABAMA - H. zea and H. virescens moth flights

much heavier and more widespread with species about equal in number. Eggs ranged 5-60 per 100 terminals, larvae 10-100 per 100 stalks in several fields. Controls difficult. Fields with high counts related to recognizable poor control efforts past 14-21 days, increase in H. virescens larval counts, and plant size. (McQueen).

GEORGIA - Helicthis zea oviposition heavy, up to 106 eggs and 68 larvae per 100 terminals noted in Burke County. (Boone). Moderate in 60-acre Pulaski County field. (Dinkins). TENNESSEE - In fields found infested in western area, Heliothis spp. counts ranged 1-2 larvae or eggs per 100 terminals and 1-4 percent damaged squares in western area. Terminal and square counts continued well below control levels over area. (Locke, Patrick). Counts ranged 0-5 larvae or eggs per 100 terminals and 0-6 percent damaged squares in central area. Overall population and damage remained very light. (Cagle).

BEET ARMYWORM (Spodoptera exigua) - GEORGIA - Light in cotton across southern area. (Womack, Boone). OKLAHOMA - Light on cotton in Greer, Jackson, Harmon, and Tillman Counties. Heaviest infestation 8 percent in Greer County. (Okla. Coop. Sur.). TEXAS - Infested cotton in Rolling and High Plains areas. Light to moderate damage noted in some Dickens County fields. Reduced activity reported from counties surrounding Lubbock. (Boring, McIntyre).

COTTON LEAFPERFORATOR (Bucculatrix thurberiella) - TEXAS - Increased infestations noted in Robertson County cotton. Populations continued to increase around field margins in Reeves, Pecos, and Glasscock Counties. Larvae in isolated Pecos County fields ranged 1-4 per leaf and 1-6 in "open horseshoe stage on plants around field margins. (Cole, Neeb).

PLANT BUGS - TEXAS - Lygus spp. (lygus bugs) ranged moderate to heavy in isolated cotton fields in Coyanosa area of Pecos County. Treatment applied to one field to prevent loss of small squares and bolls. (Neeb). ARKANSAS - L. lineolaris (tarnished plant bug) and Neurocolpus nubilis (clouded plant bug) increased in east-central area as result of increase in newly hatched nymphs. Situation probably more pronounced than in most years due to fewer fields than normal treated to date for Anthonomus grandis (boll weevil) and/or Heliothis spp. (bollworms). (Boyer).

BANDEDWING WHITEFLY (Trialeurodes abutilonea) - MISSISSIPPI - Locally heavy populations occurring in cotton throughout State. Some treatments applied. (Robinson). ALABAMA - Infestations increased Statewide. (McQueen).

TOBACCO

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults averaged 10+ per leaf on late tobacco at Croom, Prince Georges County. (U. Md., Ent. Dept.). KENTUCKY - Ranged 20-25 adults per plant in Fayette County. (Barnett).

GREEN PEACH APHID (Myzus persicae) - KENTUCKY - Averaged 300 per plant or about 31 per leaf in Fayette County. About 35 percent of burley has been topped. (Barnett).

MISCELLANEOUS FIELD CROPS

SUNFLOWER BLOSSOM MIDGE (Contarinia schulzi) - MINNESOTA - Sunflower fields still infested but mostly in edge rows. Infestation noted at 50 percent in 20 outermost rows of field in Norman County. Some immature heads completely destroyed; incidence less than one percent. This infestation noted in less than 5 percent of fields. (Minn. Pest Rpt.).

SUNFLOWER MOTH (Homoeosoma electellum) - SOUTH DAKOTA - Numerous fields of sunflowers reported damage in northeast area; larvae ranged up to 50 per plant. (Walgenbach, Kantack).

GENERAL VEGETABLES

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - Blacklight trap catches indicated heavy increase in moth flights. Many times heavier in central area than previous period. Moth flight heavy enough to be important to vegetable growers. Eggs found on volunteer corn plants in Portage County bean field and in Waushara County potato field. (Wis. Ins. Sur.).

HAWAII INSECT REPORT

General Vegetables - CARMINE SPIDER MITE (Tetranychus cinnabarinus) heavy on about one acre of sweet corn at Waianae, Oahu; averaged about 30 forms per square inch of leaf surface. Most leaves infested. (Mau).

Fruits and Ornamentals - Heavy infestations of a CERAMBYCID BEETLE (Sybra alternans) found in 6 possion fruit plants in 100-acre planting at Kahului, Maui. Oviposition punctures too numerous to count. Although not normal pest of passion fruit, S. alternans reported damaging passion fruit at Hilo, Hawaii Island, in August 1956. (Ah Sam, Funasaki). Extensive survey for ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) on Oahu initiated August 13. Survey of plants at minimum of 600 map-grid points throughout populated areas of island expected to be complete by early September. Rearing of A. spiniferus began in preparation for mass rearing and release of parasites. (Mau).

Man and Animals - Mosquito collections from 73 light traps operated on Oahu during June totaled 290 females of Aedes vexans nocturnus and 3,593 females of Culex pipiens quinquefasciatus. Aedes catches averaged 4 females per trap and Culex catches averaged 49 females per trap. (Vector Control Br., State Dept. Health).

Beneficial Insects - Recovery data indicate that a BRACONID WASP (Apanteles erionotae), a larval parasite of Erionota thrax (banana skipper), is effective against this pest in certain areas of Oahu. During June, A. erionotae parasitized about 47 percent of E. thrax larvae collected from site at Waianae. During July, recovery data indicate this braconid wasp parasitized 100 percent, zero percent, and 40 percent of E. thrax larvae collected from individual sites at Waianae, Lualualei, and Ewa, respectively. (Mau).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - MICHIGAN - Pheromone trap catches at Fennville, Allegan County, indicated second-generation moth flight increased. (Howitt, Olsen). ARIZONA - Heavy in previously untreated apples and pears at Safford, Graham County. (Ariz. Coop. Sur.). IDAHO - Pheromone trap catches at Moscow, Latah County, as follows: One August 9, 2 August 10, 5 August 11, one August 12, none August 13 and 14, and 3 August 15. (Portman).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - WASHINGTON - Peak third-brood flight noted late July and early August. Nine-fold reduction in third-brood moths noted in Parker and West Wapato areas, Yakima County, compared to 1973. (Eves).

APPLE MAGGOT (Rhagoletis pomonella) - VERMONT - Adult emergence continued at low level. (MacCollom). MICHIGAN - Emergence peaking from Grand Rapids, Kent County, southward, increasing northward. (Olsen).

CALIFORNIA PEARSLUG (Pristiphora abbreviata) - IDAHO - Collected in pear orchard at Nampa, Canyon County, May 14, 1974, by H.W. Homan. Determined by D.R. Smith. This is a new State record. (Homan).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Populations increased in south-central area pecans. Some commercial producers applied treatments. Light activity noted in Brewster, Jeff Davis, Foard, and Midland Counties, while light to moderate infestations noted damaging pecan trees in Young County. (Cole et al.). OKLAHOMA - Small second-generation larvae active on pecan trees in McCurtain County and one egg mass reported hatching in Payne County. (Okla. Coop. Sur.).

PECAN NUT CASEBEARER (Acrobasis caryae) - TEXAS - Continued to damage pecans in Young, Wichita, Wilbarger, and Knox Counties. Light in Ward and Ector Counties. (Boring, Neeb). OKLAHOMA - Moderate to heavy damage by second-generation larvae occurred on untreated native pecans in Payne, Lincoln, and Seminole Counties. Larvae ranged from about second instar to full grown. (Okla. Coop. Sur.).

PECAN WEEVIL (Curculio caryae) - GEORGIA - Emergence continued in Pike and Spalding Counties. (Dupree, Tippins). Emergence increased, with up to 64-88 adults in 400 emergence traps. First pecan nut drop noticed in Peach County. (Payne). ALABAMA - Adults fed on pecan nuts in Bullock County. Treatments applied in some orchards. (Stone).

BLACK PECAN APHID (Tinocallis caryaefoliae) - TEXAS - Infestations in pecans increased in south-central area; some leaf drop observed in area. Moderate to heavy infestations reported from Mason County. Moderate to heavy populations on pecan foliage reported in Pecos and Midland Counties. Light infestations reported in Ward, Jeff Davis, and Brewster Counties. (Cole et al.).

YELLOW PECAN APHIDS (Monellia spp.) - TEXAS - Heavy infestations on pecans reported from south-central counties. Large amounts of honeydew reported covering foliage of trees in Brazos County indicating heavy infestations. Heavy infestations also reported from Jones County, while light to moderate infestations reported from Young County. Aphids ranged 0-70 per compound leaf in Pecos County. Recent rains helped reduce populations on pecan foliage. In Midland County, 1-15 aphids per compound leaf reported. Infestations light in Ward, Brewster, Jeff Davis, and Upton Counties. (Green et al.).

BLACKMARGINED APHID (Monellia costalis) - OKLAHOMA - Ranged up to 25 per leaflet on Lincoln County pecans. Ranged light to moderate in Seminole County. (Okla. Coop. Sur.).

SMALL FRUITS

CURRANT SPANWORM (Itame ribearia) - WEST VIRGINIA - Larval damage to currants light at Elkins, Randolph County. Collected by B. Baker August 13. Determined by J.D. Hacker. This is a new county record. (Hacker).

IMPORTED CURRANTWORM (Nematus ribesii) - WEST VIRGINIA - Larvae rolled leaves of currant bushes and caused light damage at Elkins, Randolph County. Collected by B. Baker August 13. Determined by J.B. Hacker. This is a new county record. (Hacker).

ORNAMENTALS

MIMOSA WEBWORM (Homadaula anisocentra) - WEST VIRGINIA - Larvae caused 80 percent damage to most mimosa and honeylocust trees at Spencer, Roane County. (Atkins). OKLAHOMA - Second-generation pupation nearly complete on mimosa trees in Stillwater area, Payne County. (Okla. Coop. Sur.).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - OHIO - Heavy on greenhouse chrysanthemums in Cuyahoga County. Heavy feeding pressure produced flower discoloration and webbing over buds. Heavy infestations on chrysanthemums not common. (Lindquist).

FOREST AND SHADE TREES

ELM LEAF BEETLE (Pyrrhalta luteola) - MISSISSIPPI - Heavy infestations noted on elms in Lee, Monroe, and Clay Counties. (Robinson). KANSAS - Significant third generation expected at Manhattan, Riley County, this year; unlike 1973 when second-generation beetles laid few eggs. Eggs and some early instar larvae of third generation present on Siberian elms at Manhattan, egg laying continued. (Bell). CALIFORNIA - Very damaging to elms in San Joaquin Valley and northern counties. Unseasonable rains had adverse effect on treatments. Heavy leaf drop on street trees as bad as fall drop. Many 100-foot tall elms completely defoliated. (Cal. Coop. Rpt.).

HORN FLY (Haematobia irritans) - ALABAMA - Heavy on livestock in Morgan County. (Rutledge, Bass). MISSISSIPPI - Averaged 200+ per head on beef cattle in Monroe and Noxubee Counties. (Robinson). TENNESSEE - Counts per head by county ranged as follows: Washington 40-100, Cocke 25-60, Madison 0-50. (Walker, Turpen). INDIANA - Very light on cattle on experimental farm in Grant County. (Dobson). ILLINOIS - Average counts per head on untreated pastured beef cattle by county as follows: Grundy 7.6, Peoria 56. (Ill. Ins. Rpt.). WISCONSIN - Annoyance moderate to severe in some Trempealeau County herds. About 150 per side noted on some herds, only about 45 per side on nearby herds. Averaged 25 per side on Dane County herd. Cattle throughout State observed crowding to avoid annoyance. (Wis. Ins. Sur.). IOWA - Ranged 25-200 (average 75) per head on untreated Story County cattle. (Iowa Ins. Sur.). NEBRASKA - Averaged 100 per animal on untreated range cattle in Keith, Arthur, McPherson, and Lincoln Counties. (Campbell). OKLAHOMA - Averaged 350 per head on cows and 1,000 per head on bulls in Payne County. (Okla. Coop. Sur.). TEXAS - Active in north-central, San Angelo, Trans-Pecos, and Rolling Plains areas. Moderate activity reported in Young County. Many growers in Panhandle area noted increased activity. (Turney et al.). UTAH - Generally heavy on untreated beef and dairy herds in Millard County. (Chapman).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Averaged 8 per face in Noxubee County and 35 per face on cattle in Chickasaw, Monroe, and Lee Counties. (Robinson) TENNESSEE - Counts per head on cattle by county ranged as follows: Washington 10-20, Cocke 15-20, Madison 0. (Walker, Turpen). KENTUCKY - Collected by D.E. Barnett and P.H. Freytag in Bourbon County July 2-9, 1974. Determined by D.E. Barnett. Confirmed by F. Knapp. This is a new county record. (Barnett). INDIANA - Ranged 5-10 per face on several lots of cattle on experimental Grant County farm. (Dobson). ILLINOIS - Average counts per head on untreated pastured beef cattle by county as follows: Grundy 18, Peoria 59.5. (Ill. Ins. Rpt.). IOWA - Ranged 5-55 (average 19) per head on untreated Story County cattle. (Iowa Ins. Sur.). WISCONSIN - Variable among cattle herds. Averaged 6 per face on Dane County herd; populations heavy on some herds in other areas. (Wis. Ins. Sur.). NEBRASKA - Ranged 15-20 per face on cattle in canyon and river bottom pastures in Keith, Arthur, McPherson, and Lincoln Counties. (Campbell). UTAH - Annoyed horses at North Ogden, Weber County. (Knowlton).

STABLE FLY (Stomoxys calcitrans) - ILLINOIS - Average counts per head on untreated pastured beef cattle by county as follows: Grundy 9.8, Peoria 1.2. (Ill. Ins. Rpt.). WISCONSIN - Annoyance to cattle severe in Calumet, Kewaunee, and Rock Counties. (Wis. Ins. Sur.). NEBRASKA - Increased with recent rains, ranged 10-15 per leg on cattle in feedlots in Keith, Arthur, McPherson, and Lincoln Counties. (Campbell). OKLAHOMA - Averaged 4 per head on dairy cattle in Payne County. (Okla. Coop. Sur.).

TABANID FLIES (Tabanus spp.) - OKLAHOMA - Populations somewhat variable on cattle in Payne County. Counts taken in favorable locations and weather conditions averaged 3.5 T. lineolaris, 1 T. atratus, 1 T. sulcifrons, and less than 1 T. abactor per head. (Okla. Coop. Sur.).

A LOUSE FLY (Hippobosca longipennis) - CALIFORNIA - Treatment program initiated due to death of prized cheetah at San Pasqual Wild Animal Park, San Diego County; 6 of 11 cheetahs bathed. Heavy flea population prompted tranquilizing and bathing of cheetahs. H. longipennis ranged 5-45 per animal on six animals bathed. Treatment will relieve situation temporarily, but flies from pupae on grounds and fleas from squirrel population will soon re-infest cheetahs. (Cal. Coop. Rpt.).

MOSQUITOES - FLORIDA - Adults annoying and biting dairy cattle near Stuart, Martin County. Grower planning treatment. (Fla. Coop. Sur.). ALABAMA - Culex pipiens quinquefasciatus and other species extremely heavy throughout State. (McQueen). KENTUCKY - Mosquito populations declined along Kentucky Reservoir bordering Lyon, Trigg, Marshall, and Calloway Counties. (Barnett, Christopher). OHIO - In Lake County, 20 light traps operated August 13 and 15 captured 2,837 adult mosquitoes, mostly Culex spp., Coquillettidea spp., and Aedes cantator. Some Aedes canadensis, A. trivittatus, A. vexans, A. triseriatus, and Anopheles spp. taken. (Ohio Dept. Health). WISCONSIN - Mosquitoes heavy only in Iron and Bayfield Counties. Generally not their usual problem in most areas. (Wis. Ins. Sur.). OKLAHOMA - Mainly Psorophora spp. increased rapidly during past 14 days of rainy weather in Payne County area. (Okla. Coop. Sur.). UTAH - Mosquito populations below normal in Delta and Deseret areas of Millard County. Populations worse in Hinckley and Sutherland areas. (Chapman).

LONE STAR TICK (Amblyomma americanum) - TEXAS - Moderate to heavy in bushy areas along creeks throughout most counties in San Angelo area. (McWhorter).

HOUSEHOLDS AND STRUCTURES

AN ANT (Camponotus caryae discolor) - SOUTH CAROLINA - Heavy infestation found around Oconee County residence July 11, 1974. Collected and determined by D.K. Pollet. Treatments applied. This is a new county record. (McCaskill).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - MINNESOTA - Adult survey underway. In four districts surveyed only in southeast district was an economic field infestation found. Counts ranged 9-18 per square yard in one Dodge County alfalfa field. Predominant species were Melanoplus bivittatus and M. femurrubrum. Very little migration into fields from roadsides noted; no significant damage reported. Development varied with M. femurrubrum ranging from third to fifth instar. M. bivittatus, M. differentialis, and "slant-face" species mainly in adult stage. Occasional fourth and fifth instars found. (Minn. Pest Rpt.).

NORTH DAKOTA - Cropland survey showed widespread economic adult grasshopper infestations in south-central, southwest, and west-central counties. Counts ranged up to 50 per square yard in some alfalfa fields and field margins. Most small grains in these counties escaped major damage as development late this year. However, row crops such as corn and winter wheat may be damaged later in fall. Grasshoppers ranged from third instar through adults. Melanoplus bivittatus, M. differentialis, M. packardii, M. sanguinipes, and M. femurrubrum dominant species. (Brandvik). MONTANA - Grasshoppers, mostly Melanoplus spp., in third and fourth instars on rangeland north of Sidney, Richland County, and southwest of Plevna, Fallon County. Ranged 15-20 per square yard on 5,000 acres of cropland, mostly alfalfa and hay, and 10-20 per square yard on 8,000 acres of range. Averaged 50 per square yard on farm, fed only on rhubarb. (Knopp). UTAH - Grasshoppers noted at 50 per square yard on roadside crested wheatgrass at North Logan and 4 per square yard in alfalfa field at Hyde Park, Cache County. (Knowlton). Rangeland species migrating into nearby crops along foothills of Cache County mountains. (Burtenshaw). Locally heavy populations noted in Cache and Weber Counties; moderate in Morgan County. (Stephens). NEVADA - Camnula pellucida (90 percent) and Melanoplus femurrubrum and M. sanguinipes (10 pervent) ranged 2-35 (average 5) per square yard on 100 acres of native hay at Soldier Meadows, Humboldt County. Conozoa wallula (90 percent) and M. sanguinipes (10 percent) ranged 4-5 per square yard on 640 acres of alfalfa hay in Hualapae Valley, Washoe County. (Barclay, Bechtel). WASHINGTON - Oviposition bed about one acre in size noted in grassfield in foothills area near Spokane, Spokane County; oviposition heavy. Grassfield nearby noted with population of about 20 per square yard. (Harwood et al.).

JAPANESE BEETLE (Popillia japonica) - MARYLAND - Adults decreased in most areas. First small larvae of season observed August 13 in St. Marys County. (U. Md., Ent. Dept.).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Activity still light in most Trans-Pecos area cotton. Isolated fields with 2-5 percent boll infestations noted in Hutchinson and Reeves Counties. (Neeb). NEW MEXICO - Four damaged bolls recovered from cotton and 27 moths taken in sex lure traps in Dona Ana County. (N.M. Coop. Rpt.). ARIZONA - Negative bloom and boll counts at Bowie and San Simon, Cochise County. Third generation underway at Marana, Pima County; few fields treated but cotton making excellent progress. Scheduled treatment continued in majority of fields at Maricopa and Yuma Counties. (Ariz. Coop. Sur.).

WHITEFRINGED BEETLES (Graphognathus spp.) - ALABAMA - Adults heavy and widespread in areas of Cottonwood, Ashford, and Taylor Communities in Houston County; fed on soybean and peanut foliage. (Roney).

DETECTION

New State Records

A TENEBRIONID BEETLE (Blaps lethifera) - MARYLAND - Found near horse stables under roof on bare ground littered with wood chips, horse hair, feathers, horse and chicken manure, straw, hay, and loose dirt at Randallstown, Baltimore County, May 21, 1974, by E.J. Todd. Determined by T.J. Spilman. During past 70 years this species has been rarely collected in New Jersey, New York, Ohio, and Virginia. (Ford).

CALIFORNIA PEARSLUG (Pristiphora abbreviata) - IDAHO - Canyon County. (p. 678).

New County Records - AN ANT (Camponotus caryae discolor) SOUTH CAROLINA - Oconee (p. 681). ARMYWORM (Pseudaletia unipuncta) SOUTH CAROLINA - Darlington (p. 677). CURRANT SPANWORM (Itame ribearia) WEST VIRGINIA - Randolph (p. 679). FACE FLY (Musca autumnalis) KENTUCKY - Bourbon (p. 680). IMPORTED CURRANTWORM (Nematus ribesii) WEST VIRGINIA - Randolph (p. 679). NORTHERN CORN ROOTWORM (Diabrotica longicornis) MARYLAND - Dorchester (p. 671). WESTERN CORN ROOTWORM (Diabrotica virgifera) OHIO - Williams, Henry, Paulding (p. 670).

CORRECTIONS

CEIR 24(32):626 - BEET ARMYWORM (Spodoptera exiqua) should read (Spodoptera exigua).

CEIR 24(32):636 - DETECTION - New State Records - Line 4: Subcoccinella vigintiquaturopunctata should read vigintiquatuorpunctata. New County and Island Records - Second paragraph, line 4: Spodoptera exiqua should read ... exigua.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL - blacklight; I - incandescent; MV - mercury vapor; O - other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (salt marsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege santalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellow-striped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARIZONA																								
Mesa 8/5-11			BL	35		17			31						2		2		1095		176	141		
FLORIDA																								
Gainesville 8/9-15			BL		1			10	19						2				12	5	5			
ILLINOIS																								
Ogle 8/6-12			BL	39					2							106	64	105						
INDIANA (Districts)																								
South West 8/2-8			2BL	23												8	1	21						
West Central 8/2-8			2BL	11												13	3							
IOWA																								
Beaconsfield 8/4-10			BL	12												48	2	14						
Gilbert 8/4-10			BL	16												24	10	30						
KANSAS																								
Garden City 8/5, 7, 12			BL	4			56		11							8	1	3						
Manhattan 8/12			BL	4			4		36															
KENTUCKY																								
Lexington 8/14-16			BL	3					1									12			6			
MICHIGAN (Counties)																								
Lenawee 8/2-12			BL	45												138	60	54			8	9		
Oceana 8/6-12			BL	28												24	38	26			9	11		
MINNESOTA																								
Fergus Falls 8/8-14			BL					6																
Worthington 8/8-14			BL					4										4						
MISSISSIPPI																								
Stoneville 8/9-15			2BL	25				43	39	2563							3	10	14	53	177	599		
NEBRASKA																								
North Platte 8/9-15			BL	4			1							4	1			2						
Panhandle 8/9-15			BL				43							1				5						

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (salt marsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Mamestra quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstripped armyworm)	Trichoplusia ni (cabbage looper)	Crops
NEW HAMPSHIRE																								
Lee 8/12			BL	3															1					
NEW JERSEY																								
Seabrook 8/7-13			7BL	16				14									3			3				
Vineland 8/7-13			7BL	54				18		3							4			3				
NEW MEXICO																								
Las Cruces 8/12-16			BL		7					55						14							17	
NORTH DAKOTA																								
Bismarck 8/7, 11, 13			BL											10			5							
Fargo 8/11, 13, 15			BL														7						8	
OHIO																								
Wooster 8/10-16			BL	26												1		152	12	102		50	7	3
OREGON (Counties)																								
Linn 8/8-14			BL	16															8					
Marion 8/8-14			BL	5															26					
TENNESSEE (Counties)																								
Hardeman 8/12-16			BL	11				4		29									1	28	4		38	5
Madison 8/12-16			BL	2				1		5								2		16	7		21	11
VIRGINIA																								
Blacksburg 8/9-15			BL	10						2							4	143		69				
Warsaw 8/2-8			BL	5														114		8				
WEST VIRGINIA (Counties)																								
Kanawha 8/14			BL																1	15			1	1
Monroe 8/13			BL	12												2	1			288				
WISCONSIN																								
Cedar Grove 8/6-12			BL															29		4				
Evansville 8/6-12			BL															77		21				

Sunday, thunderstorms produced scattered severe weather. Winds damaged numerous trailers, cars, powerlines, and trees near Alexandria, Louisiana. Golfball-size hail pelted northwest Iowa and southwest Minnesota.

TEMPERATURE: Mild weather and near-normal temperatures prevailed across most of the Nation last week with only a few exceptions. Temperatures averaging from 3 to 8 degrees below normal were reported in the Dakotas, Montana, Wyoming, Idaho, Nevada, California, Oregon, and Washington. Other States recording temperatures 3 to 4 degrees below normal included Texas, Nebraska, Arkansas, and Oklahoma. Only the northeastern corner of California recorded temperatures as much as 6 degrees above normal. Monday, cloudy weather prevailed along most of the Pacific and southern Atlantic coasts. Afternoon temperatures ranged from 59 degrees at Cutbank, Montana, and Everette, Washington, to 99 degrees at Yuma, Arizona. Fair weather and below-normal temperatures were welcomed over the Pacific Coast States and the upper Plateau on Tuesday. Most afternoon readings were in the 70's and 80's. Wednesday, Alamosa, Colorado, set a new record low for this date with 36 degrees. Reno, Nevada, recorded the lowest temperature on record for this date with 33 degrees. Many stations in the Desert Southwest climbed above the century mark on Thursday. Outside the Desert Southwest, the warmest section of the Nation was the lower Plains with afternoon readings in the 90's over nearly all of Texas, New Mexico, and Oklahoma. Friday, warm, humid air off the Gulf of Mexico kept the thermometer above 70 degrees during early predawn hours as far north as southern Wisconsin. However, the forties were reported in northern New England and from the extreme northern Plains to the Pacific Northwest and the Great Basin. Saturday, east of the Mississippi River partly cloudy skies with afternoon readings in the 70's and 80's prevailed. However, in the southern Plains 90-degree readings were the rule with Garden City, Kansas, crossing the century mark by early afternoon. The northern Pacific coast continued to be the Nation's cool spot with highs only in the 60's on Sunday.

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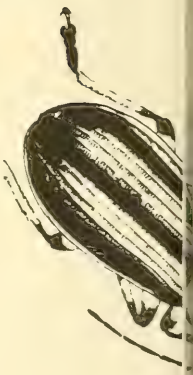

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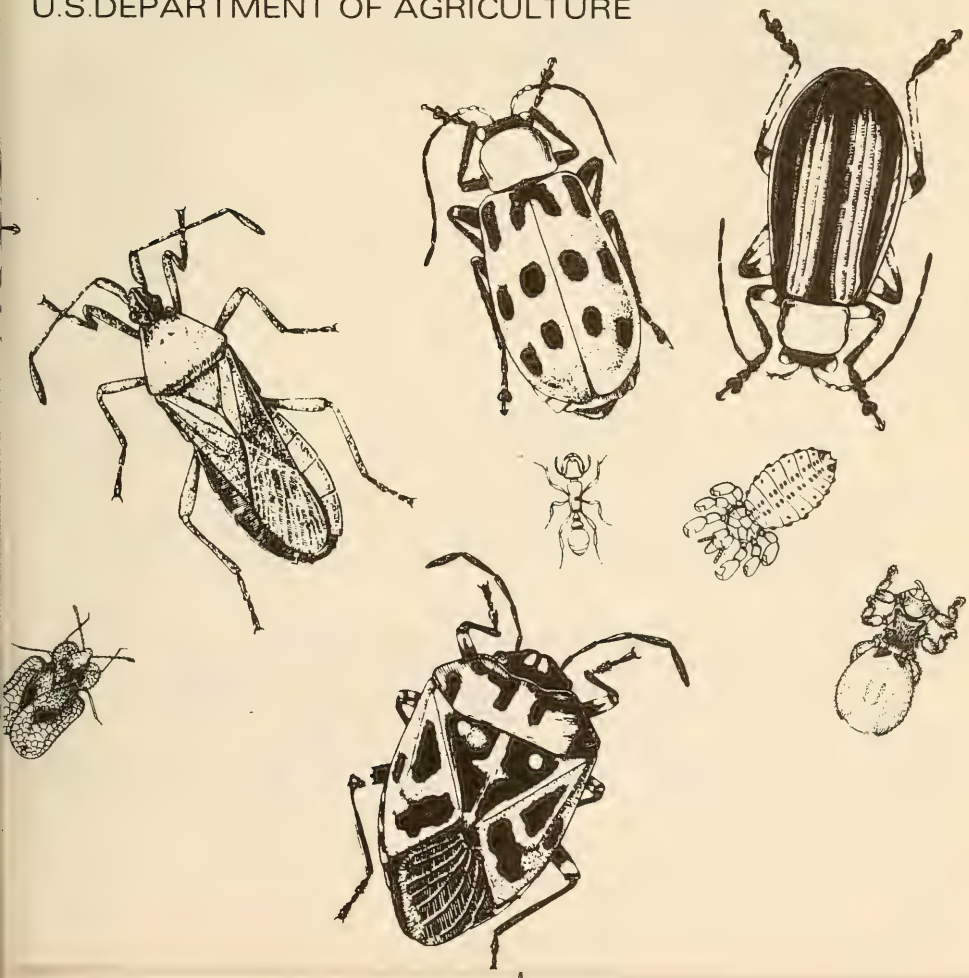

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

CORN EARWORM moth flight and egg laying continued to increase in Maryland, egg laying expected to increase in Eastern Shore soybeans; at or above economic levels in soybeans in southern South Carolina. GREENBUG infestations in sorghum decreased due to parasitism, predation, and other factors in some areas of Texas, Oklahoma, and Kansas. (pp. 689, 690).

EUROPEAN CORN BORER moth activity heavy in Wisconsin and light in Maryland, moth emergence about complete in Minnesota (p. 690).

THREECORNERED ALFALFA HOPPER and larvae of 3 NOCTUID MOTHS ranged moderate to heavy in soybeans in east-central and southeast Oklahoma. (pp. 694-695).

BOLLWORM oviposition increased in areas of Texas, Oklahoma, Louisiana, and Mississippi cotton; damaged squares increased in some areas. BOLL WEEVIL still problem in some areas, some increase in punctured squares noted. BANDEDWING WHITEFLY still problem in Alabama cotton, increased in Mississippi and Arkansas. (pp. 695-697, 698).

Detection

New State records include a CONIOPTERYGID in Virginia (p. 703), a SAWFLY in New Hampshire (p. 700), a SPHINGID MOTH in Hawaii (p. 699), TULIPTREE APHID in California (p. 701), and WESTERN WHEAT APHID in Oklahoma (p. 692).

For new county records see page 704.

Special Reports

Ischyroceraea Kiaer, A Sawfly Genus New for North America (Hymenoptera: Tenthredinidae). (pp. 707-710).

Records of a Few Vermont Aphids (Homoptera: Aphididae). (p. 711).

Reports in this issue are for week ending August 23 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING AUGUST 26

Reprinted from Weekly Weather and Crop Bulletin supplied by Environmental Data Service, NOAA.

HIGHLIGHTS: Good rains occurred in scattered sections of the Nation. Warm, moist gulf air triggered considerable precipitation from northwestern Texas northward to eastern Iowa. Lubbock and Amarillo, Texas, reported 3.91 inches of precipitation. Except for eastern Iowa and nearly all of Missouri, the Corn Belt received little or no precipitation. Temperatures were near normal for late summer in most areas of the Nation last week.

PRECIPITATION: Showers and thundershowers were reported in many areas. Rains averaging 1 to 2 inches were recorded from Texas northeastward to south-central Wisconsin. In the West, Montana received some much needed precipitation, with Great Falls reporting 2 inches for the week. Elsewhere, precipitation fell along the extreme eastern seaboard from Pennsylvania southward through Florida with stations reporting from 0.50 inch to 2 inches during the week. Except for northern Maine, only light precipitation fell over New England. Some widespread areas in the Midwest, Northeast, and Deep South reported little or no precipitation for the week. The Far West remained dry except for a few light showers in the extreme Pacific Northwest. In the Texas Panhandle, Amarillo has recorded 7.19 inches of rain so far this month, making it the wettest August on record. The old record was 6.76 inches set in 1906. Monday, locally heavy rains soaked the Middle Atlantic States. Clarksville, Maryland, got 2.20 inches and 1.33 inches of rain fell in Washington, D.C., causing some flooding. Early Tuesday, a Low centered over northwestern South Dakota triggered thundershowers and showers across Montana and eastern North Dakota. Wednesday, heavy thunderstorms swept across the Southland and in a band from west Texas into Wisconsin. Weather of the week continued on page 712.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

BEET LEAFHOPPER (Circulifer tenellus) - UTAH - Generally light in northern and central areas, curly top light in tomatoes in Davis and Salt Lake Counties. (Knowlton, Burningham).

CORN EARWORM (Heliothis zea) - MARYLAND - Moth flight and egg laying continued to increase in all areas. Field corn infestations ranged 20-60 percent on lower Eastern Shore. However, damage levels peaked due to maturing ears. Damage well below that expected due to poorly filled ears even though infestations moderate to heavy. Most ears failed to fill during July drought period. Egg laying expected to increase significantly in 80,000+ acres of Eastern Shore soybeans within next 14 days. (U. Md., Ent. Dept.). VIRGINIA - Larvae appeared in Isle of Wight County soybeans. Sample of 28 fields (666.5 acres) showed average of 0.7 larva per 30 row feet. Larvae young, not yet at level in any field to require treatment. Situation could change rapidly next few weeks, but populations in soybeans expected to be light this season. None found in 30 fields (670 acres) checked in Westmoreland County. Moths increased significantly at Holland, 165 trapped nights of August 17-19. (Eaton). KENTUCKY - Larval populations very light in most areas. (Barnett).

SOUTH CAROLINA - Sampling indicated H. zea larvae (second, third, and fourth instars) appeared in soybeans in Duplin, Sampson, Cumberland, and Harnett Counties. First and second instars appeared in Wilson, Edgecombe, Martin, and Washington Counties. Of 15 fields examined in southern counties which were blooming or just past peak bloom, about 50 percent at or above economic level (one larva per row foot). Of 10 fields checked in northern counties, none at economic injury level. Adults noted in all fields checked. (Hunt). GEORGIA - Ranged light to moderate across peanut belt. (French). ALABAMA - Very light in soybeans with only occasional larva feeding on pods in all fields examined in Geneva, Escambia, and Mobile Counties. (Henderson et al.). One small larva per 2 feet of row in 50-acre peanut field in Geneva County. One or more large larvae per foot of row on several hundred acres of peanuts in Russell County farm and mixed with other leaf feeders. (Bond et al.).

WISCONSIN - Occasional H. zea moth reported from some sites. Major flight not likely to occur for another 14-21 days. By that time most sweet corn will be harvested. Fifth-instar larvae reported in Walworth County sweet corn; averaged about one per 100 plants. (Wis. Ins. Sur.). NEW YORK - First moths of season caught in Ontario County light trap August 20. (Davis).

CORN LEAF APHID (Rhopalosiphum maidis) - MAINE - Populations increased significantly in untreated or improperly treated cornfields. No damage evident to date in well maintained stands. (Gall). NEW YORK - Especially severe in style pack variety corn in Ontario County. (Davis). ILLINOIS - Light to moderate in 90 percent of cornfields in northwest and northeast districts. In moderately infested field, 50 percent of tassels covered, with additional 1-2 percent of plants totally covered with aphids. (Ill. Ins. Rpt.). WISCONSIN - Some treatment made in Columbia County corn. Populations decreased greatly in most older fields, but some increase occurred in younger fields. Colonies of 200-300 per plant noted in some Rock and Marquette County cornfields in whorl stage. (Wis. Ins. Sur.). IOWA - Heavy on 20 acres of grain sorghum

in Palo Alto County. (DeWitt). KANSAS - Moderate to heavy in 25 percent of early bloom sorghum heads in one Marion County field. Trace to none noted in sorghum heads in other fields surveyed in this and other counties in this district and in east-central, northeast, and north-central districts. (Bell).

GREENBUG (Schizaphis graminum) - TEXAS - Light to moderate in Haskell County sorghum fields. Declined to noneconomic levels in grain sorghum in San Angelo area counties. Only some fields in High Plains counties near Lubbock and Amarillo still treated. Braconid wasps reduced infestations to noneconomic levels. Light populations of greenbugs prevail on grain sorghum throughout Trans-Pecos area. Heavy parasitism reduced greenbug populations significantly past 10 days. Some colonies noted in Pecos County with counts ranging 2-5 aphids per colony. (Boring et al.). OKLAHOMA - Decreased in Texas County sorghum due to parasitism by Lysiphlebus testaceipes (a braconid wasp). S. graminum ranged 0-30 per plant in Tulsa County and up to 400 per plant in Okmulgee County but decreased due to L. testaceipes and predation by Hippodamia convergens (convergent lady beetle). S. graminum ranged light to moderate in Washita and Caddo Counties. (Okla. Coop. Sur.).

KANSAS - Greenbug infestations declined greatly in sorghum in Washington, Republic, Cloud, Dickinson, Marion, Geary, Chase, Lyon, Osage, Johnson, Riley, Marshall, and Nemaha Counties and all counties in southwest district. Decreases primarily due to parasitism by Lysiphlebus testaceipes (a braconid wasp) and to some degree by predation of lady beetles, and possibly due partially to effects of high winds, beating rains, and hail in some eastern counties. Recent buildups in sorghum reported in Butler, Cowley, Chautauqua, and Sumner Counties. Infestations up to 1,000 per plant reported, with averages ranging 400-500 per plant. Parasitism by L. testaceipes substantially increased recently in area and hopefully will have greenbug under control soon. (Bell). SOUTH DAKOTA - Very heavy in many sorghum fields in all areas where crop grown in State. Spraying underway for some time. Some problems with control reported. (Walgenbach et al.).

POTATO LEAFHOPPER (Empoasca fabae) - WISCONSIN - Counts light, 1-8 adults per 25 sweeps, on beans in central, southern, and east-central areas; averaged one nymph per leaf in one Sheboygan County field. Averaged less than one leafhopper per sweep on potatoes in central area. Generally ranged 1-3 per sweep of soybeans in central and south-central districts. Most fields have good set and fill progressing well. Moderate on 70 percent of apple trees near Spooner, Washburn County; will cause some leaf curling on young trees. (Wis. Ins. Sur.). INDIANA - Average counts per 10 sweeps of alfalfa by district as follows: Northwest, adults 11, immatures 6; north-central, adults 9, immatures 5; northeast, adults 13, immatures 23; southwest, adults 10, immatures 0.3; south-central, adults 7, immatures 2. In few fields where counts heavy in northern districts damage severe due to combination of E. fabae and low moisture. Little evidence of damage in any of southern districts where rainfall more prevalent. (Ballard, Meyer). KENTUCKY - Ranged 200-400 per 100 sweeps in northeastern area alfalfa. Some yellowing of lower leaves noted but most alfalfa in good condition. Leafhoppers averaged 250 per 100 sweeps at one Fayette County location. (Barnett).

SPOTTED ALFALFA APHID (Therioaphis maculata) - KANSAS - Ranged 10-20 per 10 sweeps in alfalfa in Riley, Washington, and Douglas Counties. (Bell).

TOBACCO BUDWORM (Heliothis virescens) - TENNESSEE - Based on 10-percent plant sample, percent damaged tobacco plants per acre ranged 0.6-4 in 5 fields totalling 8.8 acres in Trousdale County. (Gregory). KENTUCKY - Damaged 3 percent of tobacco plants in late-planted Mason County field. (Barnett). NEW JERSEY - Larvae infested many types of bedding plants. Heavy on petunias, snapdragons, and geraniums. Larvae chew or bore into flower buds preventing normal bloom. (Ins.-Dis. Newsltr.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - Blacklight trap catches indicate moth activity heavy except in eastern and northeastern counties where development behind other areas. Egg masses found on sweet corn in Dane, Columbia, Green Lake, Fond du Lac, and Dodge Counties, but no more than 5 percent of plants with eggs in fields surveyed. Probable that egg masses will increase next 7 days since moths have had time to mate and develop eggs since heavy emergence of last period. Many pupae still in corn in central counties indicates continuing flight. In east-central area, no egg masses found on sweet corn in Kewaunee, Manitowoc, Sheboygan, or Ozaukee Counties. First-generation larvae in third or fourth instar in few fields with detectable populations. Much sweet corn surveyed well developed; much will be harvested next 21 days. Apparently there will be relatively few problems in sweet corn this season, although very late fields will be very susceptible to infestation. (Wis. Ins. Sur.).

MINNESOTA - Late-instar European corn borer larvae still found in west-central and northwest district corn. Moth emergence about complete in other districts. Indications are second generation will not be much heavier than first gemeration. (Minn. Pest Rpt.). MARYLAND - Moth flight continued light. Infestation levels in Eastern Shore field corn ranged 10-40 percent with most borers in third and fourth instars. Younger borers appeared more abundant in ear tips. (U. Md., Ent. Dept.). NEW YORK - Heavy moth flights noted in Geneva area, Ontario County. Field observations indicate only small number of eggs laid in corn in spite of heavy moth populations. (Davis). MAINE - Damage to corn evident statewide. Populations light in most areas but heavy in Winslow area of Kennebec County. Treatment minimized damage in several fields from Orono, Penobscot County, to Lewiston, Androscoggin County. Spotty heavy damage noted where inadequate treatments applied. (Gall).

FALL ARMYWORM (Spodoptera frugiperda) - KANSAS - Half to full-grown larvae infested 30 percent of preboot sorghum whorls in Geary County. (Bell). OKLAHOMA - Averaged 55 percent of plants infested in young sorghum in Caddo and Washita Counties, 30 percent in Osage County; heavy in Stephens County. (Okla. Coop. Sur.). MISSISSIPPI - Continued to damage late corn and sorghum in southern area. In young sorghum and corn in Grenada, Pontotoc, and Noxubee Counties, damaged plants ranged 10-60 percent. (Robinson). ALABAMA - Larvae ranged 2-4 per stalk in 100-acre volunteer cornfield in Coffee County. About 15 percent of young grain sorghum in 100-acre field in Geneva County infested. (Reynolds et al.). KENTUCKY - Heavy larval populations in Carlisle and McCracken Counties damaged grain sorghum. (Barnett, Raney).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - UTAH - Adult damage to corn of concern to many growers in infested parts of northern area. (Knowlton). Damage conspicious in West Jordan area, Salt Lake County. (Burningham). COLORADO - Adults ranged 3-6 per plant in cornfields of Mesa County. (Bulla). MICHIGAN - Adults collected on field corn in Section 14 of Day Township and Section 9 of Sidney Township in Montcalm County August 12, 1974, by K. Sowerby. Determined by R.J. Sauer. This is a new county record. (Sauer). INDIANA - Adults collected in Howard County August 20, 1974, and in Wells, Madison, and Blackford Counties August 22, 1974, by T. Stiles; collected in Tipton County August 20, 1974, and in Warren and Grant Counties August 22, 1974, by T. Peck. Determined by T. Turpin. These are new county records. (Turpin).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - KENTUCKY - Extremely heavy adult populations feeding on corn silks caused reduced pollination at one Shelby County location. Adults averaged 15 per ear. (Barnett, Gregory).

CORN ROOTWORMS (Diabrotica spp.) - MINNESOTA - Annual survey nearing completion. Results showed increases in southeast, east-central, and central districts over 1973. Increases about 10 percent in southeast and east-central districts. Increase slightly more than double that of 1973 in central district. Lodging of corn increased significantly in these 3 districts. (Minn. Pest Rpt.). WISCONSIN - Annual adult survey underway; appears adult counts relatively light, although notable exceptions observed. In Walworth County, heavily infested field averaged about 8 per plant and silks clipped off on most plants, although pollination already occurred. In this field, D. longicornis (northern corn rootworm) outnumbered D. virgifera (western corn rootworm) 3 to 1. Lodging ranged up to 50 percent in margins of this field. Some fields in Green, Rock, Manitowoc, Kewaunee, and Sheboygan Counties with 2-3 adults per silk and in few cases silks still quite green. (Wis. Ins. Sur.).

BANKS GRASS MITE (Oligonychus pratensis) - TEXAS - Infestations in grain sorghum declined to noneconomic levels in counties in San Angelo area. Populations continued to increase in most fields in Reeves and Pecos Counties. Treatments applied to isolated fields with results being at best 40-50 percent population reduction. Surveys and reports from across High Plains counties near Lubbock indicate cool, wet weather depressed mite activity significantly. Spider mites continued to be held in check by mositure and cool temperatures in Hale County. (McWhorter et al.). OKLAHOMA - Continued to infest untreated corn in Texas County but did not increase due to cool weather and rain. (Okla. Coop. Sur.). NEBRASKA - One of 10 irrigated cornfields examined in Cherry County showed damage by O. pratensis and Tetranychus spp., with 2-3 dead leaves per plant. (Campbell).

SMALL GRAINS

WESTERN WHEAT APHID (Brachycolus tritici) - OKLAHOMA - Moderate on wheat near Sentinel, Washita County. Collected May 16, 1974, by E. Cleveland. Determined by L.M. Russell. This is a new State record. (Okla. Coop. Sur.).

TURF, PASTURES, RANGELAND

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Adult surveys in Rio Arriba, San Juan, and Taos Counties revealed light counts and no heavy infestations. (N.M. Coop. Rpt.).

FALL ARMYWORM (Spodoptera frugiperda) - MISSISSIPPI - Active in pastures in southern area. Infestation levels not as severe as in 1973. (Robinson).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - NEW MEXICO - Adults ranged 1-8 and larvae 4-43 per 25 sweeps of alfalfa at Albuquerque, Bernalillo County; larvae ranged 5-7 per 25 sweeps in Valencia County. (N.M. Coop. Rpt.). KANSAS - Larvae averaged 4 and adults 2 per 10 sweeps in 18-inch alfalfa in Riley County. Adults averaged 0.5 per 10 sweeps in one Washington County field. No larvae or adults noted in second field in Riley County nor in one field in Douglas County. (Bell). WISCONSIN - Larvae still found in some alfalfa; averaged about one per 10 sweeps in Adams County field. (Wis. Ins. Sur.). KENTUCKY - Larvae averaged 30 per 100 sweeps in Mason County alfalfa. Noticeable damage evident in Fayette County. (Barnett).

BLACK BLISTER BEETLE (Epicauta pennsylvanica) - NORTH DAKOTA - Ranged up to 350 per 100 sweeps on alfalfa in parts of Emmons, Kidder, Logan, and McIntosh Counties. Flowers severely chewed, prevented seed boll formation. (Kaatz).

ALFALFA CATERPILLAR (Colias eurytheme) - NEW MEXICO - Adults numerous in some alfalfa in Chaves County. Larvae ranged 1-6 per 25 sweeps in Chaves County and 1-8 at Albuquerque, Bernalillo County. (N.M. Coop. Rpt.).

WESTERN YELLOWSTRIPED ARMYWORM (Spodoptera praefica) - CALIFORNIA - Larvae of S. praefica, S. exigua (beet armyworm), and Colias eurytheme (alfalfa caterpillar) have been heavy in alfalfa-growing areas in lower San Joaquin Valley; treatment extensive. Larval populations now decreasing. C. eurytheme adult flights heavy, affecting traffic flow on highways in some areas of Kern County. (Cal. Coop. Rpt.).

MEADOW SPITTLEBUG (Philaenus spumarius) - INDIANA - Adults per 10 sweeps in forage legumes averaged as follows by county: Dubois, 12 in 4 fields; Harrison, 10 on 4 farms; Washington, 23 in 5 fields; Jackson 3 in 6 fields. (Meyer).

GUAR MIDGE (Cecidomyia texana) - TEXAS - Infestations reported from guar fields in Cottle, Hardeman, Haskell, Knox, and Wilbarger Counties. (Boring).

REDLEGGED GRASSHOPPER (Melanoplus femurrubrum) - WISCONSIN - Few adults present in most alfalfa, but most still in third and fourth instars. Counts still light except in field margins where counts heavy. (Wis. Ins. Sur.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Egg laying continued in all areas of Eastern Shore. However, populations appear light and only one field in 20 hosts moderate level. Second-generation peak somewhat retarded and not expected until mid-September. Pediobius foveolatus (a eulophid wasp), a parasite of E. varivestis, appears well established in all Eastern Shore and southern areas. These wasps expected to spread and increase until frost. Heaviest parasitism rates appear to be in 10 to 20-percent range in isolated areas of Talbot, Dorchester, and Wicomico Counties. (U. Md., Ent. Dept.). VIRGINIA - E. varivestis adults averaged 3.9 per 30 row feet in sample of 30 fields (total of 670 acres) in Westmoreland County; defoliation averaged 5 percent. Adults averaged 5.6 per 30 row feet in 28 fields (666.5 acres) in Isle of Wight County; defoliation averaged 5 percent. No economic infestations found. (Allen). ALABAMA - Adults and larvae destroyed 60+ percent of foliage in 8-acre field at New Market, Madison County. Controls applied. (Gray).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MISSISSIPPI - Adults averaged 20 per 100 sweeps in soybeans in Monroe and Clay Counties. In Leflore, Sunflower, Washington, and Bolivar Counties, only occasional beetle found. (Robinson).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Ranged moderate to heavy in soybeans in Wagoner, Muskogee, Le Flore, and McCurtain Counties. Some fields averaged up to 10 lodged plants per 13 row feet. Adults averaged 4 per row foot in Okfuskee County, less than one in McIntosh County. (Okla. Coop. Sur.). MISSISSIPPI - In 200 acres of blooming soybeans in Bolivar County, 24 adults collected per 50 sweeps. (Robinson). ALABAMA - Damaged several hundred acres of late soybeans in Green County. (Foreman).

GREEN CLOVERWORM (Plathypena scabra) - MARYLAND - Larvae ranged 1-5 per yard of row in Dorchester, Caroline, and Wicomico Counties. Damage appears very light and well below 1973 levels for this period. (U. Md., Ent. Dept.). KENTUCKY - Larval averages in soybeans per row foot by county: Graves 4, Henderson 3, Ohio 6, and Caldwell 7.5. (Barnett, Roney). ILLINOIS - Averaged 2 per row foot in Piatt and De Witt Counties. No economic damage seen in any fields. (Ill. Ins. Rpt.). OKLAHOMA - Ranged moderate to heavy in soybeans in Wagoner, Muskogee, McCurtain, and Le Flore Counties. Averaged 2 per row foot in Okfuskee County, less than one per row foot in McIntosh County. (Okla. Coop. Sur.). MISSISSIPPI - In Monroe and Clay Counties, larvae of various instars averaged 58 per 100 sweeps; these are "hill" counties. In delta area counties of Leflore, Sunflower, Washington, and Bolivar, no larvae recovered from sampling of 5 fields in each county. (Robinson).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - GEORGIA - Ranged light to heavy in many fields in Brooks, Dougherty, Lanier, and Telfair Counties. Treatments applied. (Carr et al.). ALABAMA - First larvae of season light in several Geneva County fields and all fields examined in Mobile County; none observed in Escambia County. (Henderson et al.).

CABBAGE LOOPER (Trichoplusia ni) - OKLAHOMA - Ranged moderate to heavy in soybeans checked in Wagoner, Muskogee, Le Flore, and McCurtain Counties. Light in Okfuskee County. (Okla. Coop. Sur.).

SOYBEAN LOOPER (Pseudoplusia includens) - OKLAHOMA - Ranged moderate to heavy in soybeans checked in Wagoner, Muskogee, Le Flore, and McCurtain Counties. (Okla. Coop. Sur.).

PEANUTS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - GEORGIA - Ranged light to heavy across peanut belt (French); moderate on Dodge County peanuts (Pittman, Rogers). OKLAHOMA - Infestations increased to 35 percent in peanuts checked in Marshall County. Averaged 15 percent in irrigated fields checked in Hughes County, decrease from previous period. (Okla. Coop. Sur.).

REDNECKED PEANUTWORM (Stegasta bosqueella) - OKLAHOMA - Infested terminals averaged 50 percent in dryland peanuts in Washita and Caddo Counties, ranged up to 50 percent in few fields in Marshall County. (Okla. Coop. Sur.).

GRANULATE CUTWORM (Feltia subterranea) - GEORGIA - Ranged light to heavy across peanut belt. (French).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - GEORGIA - Ranged light to moderate in southern part of peanut belt. (French).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - GEORGIA - Ranged light to heavy across peanut belt, stem girdling common in some fields. (French).

TWOSPOTTED SPIDER MITE, (Tetranychus urticae) - ALABAMA - Heavy and damaged several hundred acres in several fields in Geneva and Houston Counties. (Reynolds et al.). SOUTH CAROLINA - Due to heavy rains, potential threat of widespread damage to peanuts in Northampton, Halfiax, Chowan, and Hertford Counties greatly reduced. Light populations remain in many fields. (Hunt).

COTTON

BOLLWORMS (Heliothis spp.) - ARIZONA - Required treatment in field of short-staple cotton at Marana, Pima County. (Ariz. Coop. Sur.). NEW MEXICO - H. zea (bollworm) light in Eddy, Chaves, Dona Ana, and Sierra Counties. (N.M. Coop. Rpt.). OKLAHOMA - In Jackson, Greer, Tillman, Kiowa, and Harmon Counties Heliothis spp. eggs ranged 9-38 per 100 terminals, larvae 9-55, and damaged squares 10-20 percent. Damaged squares averaged 30 percent in Caddo and Washita Counties, heavy in some Stephens County fields. In Wagoner, Muskogee, and McCurtain Counties, eggs ranged 0-22 per 100 terminals, larvae 0-12, and damaged squares 0-20 percent. Larvae averaged about 25 percent H. virescens (tobacco budworm) in these 3 counties. (Okla. Coop. Sur.).

TEXAS - Cotton harvest suspended at several locations in Uvalde area by recent rains. Fields still green and squaring attractive to Heliothis zea and H. virescens moths and increased oviposition noted. Damaging H. virescens populations found near Uvalde. Heavy pressure from H. zea and H. virescens noted in most south-central counties. Almost all larvae collected during past 7 days were H. virescens. Oviposition decreased significantly past 4-5 days. H. zea infestations evident in Tom Green, Runnels, and Schleicher Counties. Some fields in area with 10-15 percent square damage. H. zea caused moderate damage to cotton in some fields in Hardeman, Knox, Stonewall, and Wilbarger Counties. Heaviest populations noted in irrigated fields. H. zea caused 5-20 percent square damage in these fields. In one Knox County field, Heliothis spp. damaged 50 percent of squares and caused heavy boll damage. H. zea eggs declined sharply in Trans-Pecos area. Eggs in isolated fields ranged 0-15 per 100 plant terminals in Pecos, Reeves, Glasscock, Reagan, Upton, Martin, and El Paso Counties. Larvae ranged 0-5 per 100 plant terminals with damaged squares ranging 4-20 percent. H. virescens increased in most fields. In one isolated field in Pecos Valley, H. virescens made up 50-60 percent of total Heliothis spp. complex. Occasional reports of light H. zea activity also noted in High Plains counties in Lubbock area. (Stewart et al.).

LOUISIANA - H. zea and H. virescens egg laying increased greatly week ending August 19. Up to 350 eggs per 100 plant terminals found in some fields. General increase in egg laying appears apparent over State. Should continue next 7 days; increase in live larvae should be obvious. H. virescens larvae increased in cotton as mid-August passed. (Tynes). LOUISIANA - Percent of fields with 5+ percent (economic threshold) squares damaged by Heliothis spp. as follows: 13 of 70 fields in St. Martin Parish; 16 of 80 fields in Catahoula Parish; 24 of 79 fields in Bossier Parish; zero of 36 fields in St. Landry Parish; and 21 of 147 fields in Rapides Parish. H. virescens continued dominant in fields checked. Control applications continued. (St. Cloud, Coburn). MISSISSIPPI - Heliothis spp. egg counts increased over State. Control generally good, few larvae escaped treatment. In Noxubee County, cotton in some fields averaged 70-100 percent eggs for 10-day period; however, reduction in eggs currently noted. (Robinson).

GEORGIA - H. zea damaged two percent of cotton squares in Clarke County; moderate to heavy in southern and eastern areas. (Roper, Boone). TENNESSEE - Heliothis spp. infested 0-4 percent of bolls in fields surveyed in Lincoln and Fayette Counties. (Cagle). In those fields surveyed in Henderson County, counts still below control level. In McNairy County infested fields, damaged squares ranged 1-5 percent. (Gordon).

BOLL WEEVIL (Anthonomus grandis) - TENNESSEE - In central area, punctured squares ranged 3-33 percent in fields surveyed in Franklin and Lincoln Counties; infested 0-3 percent of terminals. (Cagle). In fields surveyed in Henderson County, punctured squares ranged 20-94 percent. Counts heavy in fields where controls not maintained. Increased in treated fields. In McNairy County, punctured squares ranged up to 50 percent in fields surveyed. Weather continued ideal for further increases in weevil damage in rank fruiting cotton. Hill-land cotton continued to "cut out"

and weevils migrated from fields. (Gordon). GEORGIA - Punctured squares ranged up to 90 percent in Clarke County. (Roper). Light to moderate in southern area. (Boone). ALABAMA - Anthonomus grandis light in most fields in southern and central areas, controls effective. Population "explosion" underway in several thousand acres of cotton in mountain area in northern district. Controls underway. (Smith et al.).

LOUISIANA - Boll weevil still problem in many fields as of August 19. (Tynes). Currently at economic threshold in 33 percent of 70 fields checked in St. Martin Parish; 55 percent of 80 fields checked in Catahoula Parish; zero percent in 79 fields in Bossier Parish; 50 percent in 36 fields in St. Landry Parish; and 5 percent in 147 fields in Rapides Parish. Control applications continued. (St. Cloud, Coburn). ARKANSAS - Infestations continued to increase in most areas of State. Treatments effective. (Boyer). OKLAHOMA - Percent punctured squares by county: Ranged up to 84 in Jackson, up to 54 in Tillman, up to 43 in Greer, up to 24 in Kiowa, up to 7 in Harmon, up to 34 in Washita and Caddo, 25-70 in Stephens, light to heavy in Garvin, 2-20 in Muskogee, 10-20 in Wagoner, and 2-14 in McCurtain. Adults ranged up to 8 per bloom in Stephens County; 65 taken in 32 pheromone traps in Muskogee County. (Okla. Coop. Sur.).

TEXAS - Boll weevil infestations heavy in south-central counties. Dissections show 30-40 percent of some field collections now in diapause in these counties. Sixty to 80 percent of some collections from south-central counties showing indications of disease and may indicate large reduction in overwintering population. Light to moderate activity noted in most Rolling Plains counties. Activity reduced due to hot, dry weather conditions which prevailed during growing season. Weevils heavy in some fields in Hardeman, Knox, Stonewall, and Wilbarger Counties. In more heavily infested fields, square damage ranged 40-80 percent. Populations still variable in most fields in San Angelo area; 5-10 percent square damage common. One field with 50 percent square danage noted in Tom Green County. In general, populations down considerably from 1973. (Cole et al.).

TARNISHED PLANT BUG (Lygus lineolaris) - ARKANSAS - This species and Neurocolpus nubilis (clouded plant bug) continued of concern in untreated fields in northeast area. In Mississippi County, number of fields with infestations at treatment level increased to 5.3 percent from 3.4 percent last period. (Stevenson). Untreated fields in east and northeast areas will be watched carefully next few weeks for damage to small bolls. (Boyer).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Counts of 8-12 per 25 sweeps common in Hagerman and Roswell area, Chaves County. Some heavier counts reported in Artesia area, Eddy County. Damage evident on cotton from Vado south to Anapra in Dona Ana County. (N.M. Coop. Rpt.). TEXAS - Moderate to heavy in isolated cotton fields in Reeves and Pecos Counties. (Neeb).

BANDEDWING WHITEFLY (Trialeurodes abutilonea) - ALABAMA - Continued problem in several thousand acres of cotton over State. (Smith et al.). MISSISSIPPI - Infestations heavier in hill area cotton where several heavy control applications made. (Robinson). ARKANSAS - Infestations increased to economic level and several fields treated in southeast area. (Barnes).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - CALIFORNIA - This species and other spider mites have been heavier than for many years. Weather and treatments for other pests probably responsible for extended season and need for mite controls. Spider mites still infesting cotton, some controls still being applied. (Cal. Coop. Rpt.).

TOBACCO

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - KENTUCKY - Adults averaged 3.8 per tobacco leaf at several Mason County locations and 2.9 per leaf at one Bourbon County location. About 70 percent of burley topped. Some early cutting completed in western and northeastern areas. (Barnett).

POTATOES, TOMATOES, PEPPERS

VARIEGATED CUTWORM (Peridroma saucia) - INDIANA - Larvae of this species and light numbers of 3 other noctuid moths defoliated or severely damaged plants and damaged some shallow tubers in about 200 of 500 acres of potatoes in St. Joseph County. Larvae averaged 25 per square foot in infested areas. Fields were treated once every 7 days. (Sillings).

TOMATO PINWORM (Keiferia lycopersicella) - OKLAHOMA - Moderate to heavy on commercial field-grown tomatoes in Tulsa County. Infestations mostly in greenhouses past several years. (Okla. Coop. Sur.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - DELAWARE - Infestations in untreated peppers averaged 20 percent in northwestern Sussex County. Adults in blacklight trap collections ranged 10-20 per night in area. (Burbutis).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - WISCONSIN - Larvae ranged 2-4 per stalk in large Waupaca County potato field; ranged up to three-quarters grown, with all instars present. Damage currently minimal, but will increase if controls not applied. (Wis. Ins. Sur.).

GENERAL VEGETABLES

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - Strict preventive measures underway in most of central area to avoid possible damage. Blacklight trap catches remained heavy in central area; heavy increase observed in Columbia, Jefferson, and northwest Dodge Counties. Fresh egg masses found on Waushara County beans August 13; peak egg laying will occur next 3-10 days from moths in flight last period and this period. Weather will be important in determining time span of egg laying and hatch. (Wis. Ins. Sur.).

GRANULATE CUTWORM (Feltia subterranea) - ALABAMA - Larvae damaged all of 1,000 acres of sweetpotatoes in Cullman County. Controls underway. (Spears).

HAWAII INSECT REPORT

New State Record - Single adult of a SPHINGID MOTH (Theretra nessus (Drury)) taken at light at Campbell Industrial Park on Oahu August 14, 1974. Determined by F. Howarth. Species known from India, Sri Lanka (Ceylon), Burma, Malaya, New Guinea, Japan, and Australia. Hosts include Pongamia glabra (Leguminosae), Barringtonia spp. (Myrtaceae), Convolvulus spp. (Convolvulaceae), Dioscorea spp. (Dioscoreaceae), and Amorphophallus spp. (Aroideae). (Howarth).

General Vegetables - Heavy infestation of POTATO TUBERWORM (Phthorimaea operculella) observed in 5 acres of potatoes at Mililani, Oahu. Damage heavy to foliage and growing tips. Larvae observed feeding at leaf axils. (Mau).

Fruits and Ornamentals - BLACK PARLATORIA SCALE (Parlatoria zizyphus) ranged light to moderate on citrus trees throughout Makaha, Oahu. Infested all but one of 60+ trees checked during current survey for orange spiny whitefly. (Leonhardt, Otagaki). Islandwide survey for ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) on Oahu progressing more rapidly than anticipated. After 4 days, more than half of 600 designated survey points completed. No new hosts found. New area of infestation found on roses in Makiki area, about 3.25 miles northwest of original infestation site. (Mau).

DECIDUOUS FRUITS AND NUTS

APPLE MAGGOT (Rhagoletis pomonella) - MINNESOTA - Adult emergence continued, growers should continue cover sprays. (Minn. Pest Rpt.).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - COLORADO - Still major problem in apple and pear orchards on Western Slope. Uncontrolled populations ranged 100-300 mites per leaf. (Bulla).

PECAN NUT CASEBEARER (Acrobasis caryae) - TEXAS - Continued to cause some damage to pecans in Rolling Plains and Trans-Pecos area. Light activity reported from Ector and Ward Counties. (Boring, Neeb).

PECAN WEEVIL (Curculio caryae) - GEORGIA - Emergence peaked August 21 in Peach County. Pecan nut drop noted. (Payne). OKLAHOMA - Heavy on pecans in Love and Payne Counties, moderate in Pontotoc and Garvin Counties, and light in Tillman County. (Okla. Coop. Sur.).

BLACKMARGINED APHID (Monellia costalis) - OKLAHOMA - Ranged up to 100 per leaf on pecan trees in Okfuskee County; heavy in Pontotoc, Love, and Comanche Counties, moderate in Tillman County, and light in Tulsa and McIntosh Counties. (Okla. Coop. Sur.).

YELLOW PECAN APHIDS (Monellia spp.) - TEXAS - Populations decreased in most locations in Uvalde area. Aphids throughout most south-central counties generally noneconomic except in isolated areas. In Brazos County, heavy populations noted on pecan trees at College Station. Populations ranged 30-50 per compound leaf on some trees. Heavy infestations also noted on pecan trees in Wichita, Wilbarger, and Young Counties. Light to heavy populations on pecan foliage reported from Pecos and Ector Counties. Infestations light in Upton, Brewster, and Jeff Davis Counties. (Stewart et al.).

ORNAMENTALS

YELLOWSTRIPED ARMYWORM (Spodoptera ornithogalli) - OHIO - Late-instar larvae fed on tight buds of roses in Wayne County greenhouse. Plants infested with one or more larvae rendered unsaleable. This may be first recorded incidence of S. ornithogalli feeding on greenhouse roses in State. Determined by R.W. Rings. (Lindquist).

A SAWFLY (Nematus lipovskyi Smith) - NEW HAMPSHIRE - Four females collected from Azalea mollis at Durham, Strafford County, May 21, 1972, by J.G. Conklin. This is a new State record. (Blickle). For description of this new species by D.R. Smith and distribution see Proc. Ent. Soc. Wash. 76(2):204-207. (PPQ).

FOREST AND SHADE TREES

WHITE FIR NEEDLEMINER (Epinotia meritana) - CALIFORNIA - Complex of E. meritana, Choristoneura verdis, C. lambertiana (tortricid moths) and Dioryctria sp. (a pyralid moth) now occurs on 150,000 acres of forest lands in Modoc and Siskiyou Counties. Defoliation of firs and pines severe. Larval populations now subsided, moth flight complete. This is second year of infestation and complex is spreading. (Cal. Coop. Rpt.).

ELM LEAF BEETLE (Pyrrahalta luteola) - WEST VIRGINIA - Caused heavy damage to elms in Fayette County. (Moore). NEW MEXICO - Siberian elms in Valencia and Bernalillo Counties 75-95 percent defoliated. All instars present on remaining foliage. (N.M. Coop. Rpt.).

FALL WEBWORM (Hyphantria cunea) - MAINE - Webs noted on forest trees from Orono, Penobscot County, south to Androscoggin County enveloping 2 or 3 branches. Spot checks along highways indicate heavier infestation in southern counties. (Gall). SOUTH CAROLINA - Extensively damaged pecan, persimmon, sourwood, hickory, and cherry trees. Infestation along U.S. Highway 64 and Interstate Highway 40 noted at 1-10 webs per tree (average 3) on 50+ percent of persimmon trees (5+ feet tall) from Davidson County to McDowell County. Reports from Watauga and Avery Counties indicate much heavier infestation than in southwestern mountains. (Johnson et al.).

TULIPTREE APHID (Macrosiphum liriodendri) - CALIFORNIA - Collected from tuliptree (Liriodendron tulipifera) in San Leandro, Alameda County, July 3, 1974, by E. Whitaker. This is a new State record. Collected from tuliptree in San Jose, Santa Clara County, July 16, 1974, by Stegmiller and Ahrendes. This is a new county record. Determination by T. Kono. In San Jose, honeydew drip was heavy and leaf drop quite evident. (Cal. Coop. Rpt.).

AN APHID (Neoprociphilus aceris) - OKLAHOMA - Found heavy on limbs of maple tree in Minco, Grady County, June 10, 1974, by J. Igleheart. Determined by L.M. Russell. This is a new county record. (Okla. Coop. Sur.).

MAN AND ANIMALS

HORN FLY (Haematobia irritans) - MARYLAND - Counts in heaviest infested herds ranged 250-300 per head in Wicomico, Frederick, and Carroll Counties. Most herds hosted only moderate levels at this time. (U. Md., Ent. Dept.). TENNESSEE - Counts per head of cattle by county: Shelby 0-100, Tipton 0-75, Henry 10-50. (Swindol, Turpen). INDIANA - Averages ranged 20-25 per side on several lots of black cattle on experimental farm in Grant County. (Dobson). ILLINOIS - Averaged 195 per head on untreated beef cattle in De Witt County. (Ill. Ins. Rpt.). NEBRASKA - Averaged 150 per head where animals provided with backrubbers, 500+ per head where untreated in Cherry, Keith, Arthur, McPherson, Logan, and Lincoln Counties. (Campbell). KANSAS - Very heavy on some range cattle in Marion County; ranged 600-800 per head. (Bell). OKLAHOMA - Horn fly averaged 300 per head on cattle checked in Delaware and Adair Counties. Heavy in Craig, Garvin, and Comanche Counties. (Okla, Coop. Sur.). TEXAS - Heavy populations reported on livestock in Upton, Pecos, Reeves, and Ward Counties. Light to moderate populations reported on livestock in Brewster, Jeff Davis, Hudspeth, and Ector Counties. Infestations moderate to heavy in all San Angelo area counties. (Neeb. McWhorter). MISSISSIPPI - Averaged less than 200 per beef animal in Monroe and Chickasaw Counties. (Robinson).

FACE FLY (Musca autumnalis) - MARYLAND - Ranged 50-65 per head on dairy and beef cattle in heaviest infested herds in Howard, Montgomery, and Frederick Counties. Populations considered moderate to heavy statewide. (U. Md., Ent. Dept.). MISSISSIPPI - Populations

on cattle decreased from those of 14 days ago. Present levels in Monroe and Chickasaw Counties averaged 20 per head. Much eye watering and other eye problems noted in areas where activity heavy. (Robinson). INDIANA - M. autumnalis ranged 5-10 per face on several lots of black cattle on experimental farm in Grant County. (Dobson). ILLINOIS - Averaged 19 per head on untreated beef cattle in De Witt County. (Ill. Ins. Rpt.). WISCONSIN - Continued to be of concern to cattlemen, but populations moderate in most areas. Some carefully treated herds have little problem and others have severe annoyance. (Wis. Ins. Sur.). IOWA - Heavy on Story County cattle; ranged 2-60 (average 10) per head on untreated cattle. (DeWitt). UTAH - Annoyed dairy cattle in Richmond area, Cache County. (Knowlton).

STABLE FLY (Stomoxys calcitrans) - TENNESSEE - Heavy populations observed around barns and stables in western area; in most cases, controls warranted. (Gordon). ILLINOIS - Averaged 0.4 per head on untreated beef cattle in De Witt County. (Ill. Ins. Rpt.). WISCONSIN - Populations vary greatly over State. Heavy with severe annoyance to dairy cattle reported in Rock, Bayfield, and Calument Counties; annoyance light in Outagamie County. Caused much annoyance to humans, as well as cattle and deer in northern lake districts. Some fishermen report intense biting even in boats some distance from shore. (Wis. Ins. Sur.). NEBRASKA - Ranged 1-2 per leg and 8-10 per leg on animals confined in 2 Cherry County feedlots. (Campbell).

HOUSE FLY (Musca domestica) - TEXAS - Increasing populations noted throughout San Angelo and Trans-Pecos areas during past week. Heavy populations noted around livestock premises in Hudspeth County. (McWhorter, Neeb).

MOSQUITOES - MINNESOTA - Light-trap catches in Metroplitan Mosquito Control District began to show anticipated increases predicted on basis of early August rains. During period August 10-16, 1,261 females collected; Aedes vexans 64 percent, Coquillettidia perturbans 21 percent, balance contained 15 species. In evening bite collections, 73 percent A. vexans, 21 percent C. perturbrans. In daytime field bite collections, A. vexans 61 percent. A. stimulans 10 percent, A. triseriatus (a treehole breeder) 8 percent. A. vexans, A. triseriatus, Culex restuans, and A. cinereus, in that order, more important species in larval collections. (Minn. Pest Rpt.). WISCONSIN - Mosquitoes light in most areas. Few trouble spots still exist in Bayfield and Iron Counties in extreme northwest area. Specimens collected near Manitowish Waters, Vilas County, were Aedes vexans; however, counts light. (Wis. Ins. Sur.).

LONE STAR TICK (Amblyomma americanum) - TEXAS - Heavy nymphal populations found in brushy areas of most counties in San Angelo area. (McWhorter).

GULF COAST TICK (Amblyomma maculatum) - TEXAS - Infestations increased on livestock throughout most coastal counties in south-central area. (Cole).

BENEFICIAL INSECTS

LADY BEETLES - INDIANA - Adults averaged 1.28 per 10 sweeps in 21 alfalfa fields in southwest and south-central districts where counts made. About 58 percent Coleomegilla maculata, 33 percent Hippodamia parenthesis, 9 percent represented three species. (Meyer). OHIO - H. parenthesis adults appeared in alfalfa and red clover. Heaviest counts per 50 sweeps by county: Muskingum 10, Holmes 6, Coshocton 5, Guernsey 4. (Fox).

AN ICHNEUMON WASP (Bathyplectes curculionis) - IOWA - This larval parasite of Hypera postica (alfalfa weevil) reared from larvae collected in following counties: Cass, June 11; Crawford, June 12; Guthrie, June 13; and Shelby, June 12. Collected by G. Wallerich. Cerro Gordo, May 24; Dallas, May 20; Jasper, May 24; Madison, May 20; Polk, May 24; Van Buren, June 4; and Warren, May 1. Collected by C. Stottenow. Kossuth June 11 and Palo Alto June 13. Collected by C. Hammon. Lee County, May 1974, collected by S. Hintz and Davis County, May 11, collected by J. DeWitt. All determinations made by J. DeWitt. These are new county records. (DeWitt).

A CONIOPTERYGID (Aleuropteryx juniperi) - VIRGINIA - Heavy around juniper foundation planting near George Mason University at Independent City of Fairfax. Adults collected July 15, 1974, by R.W. Baumann. Determined by O.S. Flint. This is a new State record. (Flint). For first report of this neuripteron in United States see CEIR 24(33):659. (PPQ).

A CHALCID WASP (Brachymeria intermedia) - WEST VIRGINIA - About 11,000 adults released near Frankford, Greenbrier County, August 20, 1974. This is first release in county. (Coffman).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - MINNESOTA - Additional adult surveys revealed economic populations in several districts. Last instar and adult Melanoplus femurrubrum averaged 63 per square yard in margins of one east-central area field. Ranged 18-27 per square yard in one Benton County alfalfa field in central area. In northwest district, high counts of 12 M. bivittatus adults and M. femurrubrum late instars per square yard found in Kittson County alfalfa fields. Most significant damage occurred in west-central district. M. bivittatus damaged edge rows in several Chippewa County cornfields. (Minn. Pest Rpt.). NORTH DAKOTA - Adult cropland survey showed M. bivattatus, M. packardii, and M. femurrubrum dominant in south-central counties. Economic infestations found in localized areas; counts ranged up to 9 per square yard in some fields, heavier in field margins. Small grains escaped serious damage, but boll cutting apparent in some flax fields. Alfalfa intended for seed damaged to where few seed bolls formed in some fields. (Kaatz). NEW MEXICO - Several species moved into alfalfa from ditches and field edges. Counts ranged 5-30 per 25 sweeps in some alfalfa in Bernalillo and Valencia Counties. (N.M. Coop. Rpt.). UTAH - Infestation much lighter in alfalfa adjoining range in Newton and Clarkston area of Cache County than at this time in 1973. (Knowlton).

JAPANESE BEETLE (Popillia japonica) - OHIO - Adults encountered in east-central area alfalfa. About one per 2 sweeps found in several Coshocton and Tuscarawas County fields. Occasionally, 4-5 per plant observed. (Fox).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Isolated cotton fields in Pecos County where no treatments applied hosted infestations ranging 3-50 percent. Boll infestations in treated fields ranged 0-6 percent. (Neeb). NEW MEXICO - Damage remained very light; no increase in activity in cotton-growing areas of State. (N.M. Coop. Rpt.). ARIZONA - Regular treatments in cotton continued in Salt River Valley, Maricopa County; spray schedules continued in Yuma County. Boll counts ranged 2-4 percent infestation; probably 2-3 more applications to be made. Infestation ranged 0-15 percent at Safford, Graham County. (Ariz. Coop. Sur.).

DETECTION

New State Records - A CONIOPTERYGID (Aleuropteryx juniperi) - VIRGINIA - Independent City of Fairfax. (p. 703). A SAWFLY (Nematus lipovsky) - NEW HAMPSHIRE - Strafford County. (p. 700). A SPHINGID MOTH (Thereta nessus) - HAWAII - Oahu Island (p. 699). TULIPTREE APHID (Macrosiphum liriodendri) - CALIFORNIA - Alameda County. (p. 701). WESTERN WHEAT APHID (Brachycolus tritici) - OKLAHOMA - Washita County. (p. 692).

New County Records - An APHID (Neoprociphilus aceris) OKLAHOMA - Grady (p. 701). An ICHNEUMON WASP (Bathyplectes curculionis) IOWA - Cass, Crawford, Guthrie, Shelby, Cerro Gordo, Dallas, Jasper, Madison, Polk, Van Buren, Warren, Kossuth, Palo Alto, Lee, Davis (p. 703). TULIPTREE APHID (Macrosiphum liriodendri) CALIFORNIA - Santa Clara (p. 701). WESTERN CORN ROOTWORM (Diabrotica virgifera) MICHIGAN - Montcalm (p. 692). INDIANA - Wells, Madison, Blackford, Tipton, Warren, Grant (p. 692).

CORRECTIONS

CEIR 24(33):655 - FLORIDA FERN CATERPILLAR (Callopistromyia floridensis) should read (Callopistria floridensis). This correction should also be made on page 661 under New State Records. (PPQ).

CEIR 24(34):665 - HIGHLIGHTS - DETECTION - Delete "... and 7 APHIDS in Vermont (p. 683)." These records not carried in this issue. (PPQ).

CEIR 24(34):681 - MOSQUITOES - OHIO - Aedes cantator should read Aedes sollicitans. (Fox).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estimene acrea (saltmarsh caterpillar)	Fucoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commitalis (alfalfa webworm)	Loxostege pantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstripped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARIZONA																								
Mesa 8/12-18			BL	20		7			61						4		4		2260		141	289		
FLORIDA																								
Gainesville 8/16-21			BL					4	18						6			5	2	12	8			
ILLINOIS (County)																								
Ogle 8/13-19			BL						6							288		77		58				
INDIANA (Districts)																								
North West 8/9-15			BL	2												5		4						
West Central 8/9-15			2BL	31					1					1		28	3	23						
KANSAS																								
Manhattan 8/20			BL	6			30		30							3		2		1	1	2		
Scandia 8/20			BL	2			24		10							16		3				2		
KENTUCKY																								
Lexington 8/22-23			BL	5													10	33			10			
MINNESOTA																								
Fergus Falls 8/15-21			BL				234	12																
Worthington 8/15-21			BL				236																	
MISSISSIPPI																								
Stoneville 8/16-22	68-93	0.41	2BL	21				25	100	2710								24	22	70	232	882		
NEBRAKSA																								
Clay Center 8/19			BL											3		32	64	32						
Panhandle 8/22			BL	1			158							1				1						
NEW HAMPSHIRE																								
Lee 8/19			BL	8												1		2						
NEW JERSEY																								
Seabrook 8/14-20			7BL	41								16				3				5				
Vineland 8/14-20			7BL	93								14				9								

LIGHT TRAP COLLECTIONS

	Temperature °F	Precipitation (inches)	Type of trap: BL - blacklight; I - incandescent; MV - mercury vapor; O - other	Agrotis ipsilon (black cutworm)	Estigmene acrea (salt marsh caterpillar)	Euxoa auxiliaris (army cutworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laphygma frugiperda (fall armyworm, fall fodder worm)	Loxostege commixtalis (garden webworm)	Loxostege sticticalis (beet webworm)	Mamestra configurata (bertha armyworm)	Mamestra picta (variegated cutworm)	Mythimna unipuncta (true armyworm)	Ostrinia nubilalis (European corn borer)	Pieris rapae (cabbage butterfly)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellow-striped armyworm)	Trichoplusia ni (cabbage looper)	Crops
NORTH DAKOTA																							
Bismarck 8/16-19			BL													5		1	67				
Fargo 8/18-22			BL																1			8	
OHIO																							
Wooster 8/17-23			3BL	20									1			136	31	82			6	6	
PENNSYLVANIA (Districts)																							
Central 8/8-20			BL	12	10				2				6			63	1						
North East 8/8-20			BL										1										
TENNESSEE (Counties)																							
Hardeman 8/19-23			BL	2			2		12									11		21	1		
Madison 8/19-23			BL	13					9									9		10			
VIRGINIA																							
Blacksburg 8/16-22			BL	14					3				1			24		26					
Warsaw 8/16-22			BL	2					6				3			94		12					
WISCONSIN																							
Cedar Grove 8/13-20			BL													46		22					
Hancock 8 15-21			2BL													224		2					

Ischyroceraea Kiaer, A Sawfly Genus New for North America (Hymenoptera: Tenthredinidae)

David R. Smith 1/

Abstract: Ischyroceraea Kiaer and its only species, I. arctica (Thomson) n. comb., is recorded from North America based on specimens from Alaska. The genus and species have been known only from Eurasia. Eniscia Thomson, which was previously considered as the valid generic name, is shown to be a synonym of Sciapteryx Stephens.

The genus Ischyroceraea, represented by the single species I. arctica (Thomson), has been recorded only from Scandinavia and Siberia. Three specimens collected in Alaska also belong to this genus and species. This record is an addition to the growing list of holarctic sawflies.

The use of Ischyroceraea as the generic name is unfortunate but must be used in accordance with the rules of nomenclature as currently applied. Since Konow (1908) and Rohwer (1911b), Eniscia, with Eniscia arctica Thomson as type-species and Ischyroceraea Kiaer as a synonym, has been considered the valid generic name. Thomson (1870) included two species in Eniscia when he described the genus, E. consobrina (Klug) and E. arctica, n. sp., in that order. Konow (1908) removed consobrina and placed it in the genus Sciapteryx where it currently belongs thereby leaving arctica as the sole representative of Eniscia. However, Konow (1908) did not state that arctica was the type of the genus even though he left it as a monotypic genus and must have intended arctica to be so. Rohwer (1911a) designated Tenthredo consobrina Klug as type-species of Eniscia, but later (1911b) stated that he was wrong in considering consobrina as type-species because he overlooked Konow's 1908 paper. He changed his opinion on the basis that Konow's indication of the type of the genus by elimination served to fix the type-species and considered Konow (1908) as the type-designator. Rohwer acted in good faith in this change by following the recommendations of the rules of nomenclature as they were applied at that time. To this date, authors have followed Rohwer (1911b) and have used Eniscia with type-species E. arctica Thomson as designated by Konow, 1908.

According to the current International Code of Zoological Nomenclature, Konow did not designate the type-species because he did not specifically state that arctica was the type. The only valid type designation is consobrina by Rohwer, 1911a. By applying the current rules of nomenclature, the usage of Eniscia over the past 66 years must be changed: Eniscia with consobrina as type-species becomes a synonym of Sciapteryx, and Ischyroceraea becomes the valid generic name for the species arctica. In summary:

(1) Sciapteryx Stephens, 1835. Type-species: Tenthredo costalis Fabricius. Monotypic.

Eniscia Thomson, 1870. Type-species: Tenthredo consobrina Klug. Design. by Rohwer, 1911a. N. SYN.

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(2) Ischyroceraea Kiaer, 1896. Type-species: Ischyroceraea hyperborea Kiaer. Montypic.

Ischyroceraea arctica (Thomson). N. COMB. (=Ischyroceraea hyperborea Kiaer, synonym by Konow, 1908).

If arctica is to be considered as type-species of Eniscia, application would have to be submitted to the International Commission on Zoological Nomenclature to set aside Rohwer's (1911a) type-designation. I would support a case considering this because (1) I believe that arctica was originally intended to be the type of the genus, (2) Rohwer (1911b) acted according to the recommendations employed at that time, and (3) Eniscia has been used for nearly 70 years. In this instance, strict application of the current Code upsets rather than insures the stability of nomenclature. However, is it worth taking the time and effort of many people to make application for stabilization of a name that has not frequently appeared in the literature.

Ischyroceraea Kiaer

Ischyroceraea Kiaer, 1898. Tromsö Mus. Aarsh. 19:68; Konow, 1908. Ztschr. System. Hym. Dipt. 8:87 (=Eniscia Thomson). Type-species: Ischyroceraea hyperborea Kiaer. Monotypic.

This genus is related to Tenthredo and is most likely to be confused with those species of Tenthredo which have short, clubbed antennae and have black with yellow markings such as yellow transverse stripes on the abdomen. Ischyroceraea is distinguished from Tenthredo by the following: eyes small and far apart, distance between eyes more than one and one half times length of an eye; antenna stout, but not clubbed; extremely long malar space, nearly five times as great as diameter of front ocellus; and dull, densely punctured head, thorax, and abdomen.

Ischyroceraea arctica (Thomson) n. comb.

Eniscia arctica Thomson, 1870. Opusc. Entomol. 2:300; Konow, 1908. Ztschr. System. Hym. Dipt. 8:87; Malaise, 1931. Svenska Vet.-Akad. Skrift. Naturskydd. 17:55 (in Sweden); Malaise, 1932. Arkiv för Zool. 23A:4 (in Siberia).

Ischyroceraea hyperborea Kiaer, 1898. Tromsö Mus. Aarsh. 19:68; Konow, 1908. Ztschr. System. Hym. Dipt. 8:87 (=arctica Thomson).

Female: Length, 10.0 mm. Black with following yellow: clypeus, labrum, mandibles, paired transverse streaks on hind margin of tergites 3 to 7, center of 9th tergite, and outer surface on front femur except at extreme base. Each tibia and tarsus orange-yellow. Wings lightly, uniformly infuscated yellow; veins and stigma orange-yellow.

Head and thorax dull, rough, heavily punctured; abdomen dulled with surface sculpture, vaguely shining. Antenna stout, length about one and one-half times head width; first segment as long as broad; second segment broader than long; third segment twice length of fourth segment; fourth to ninth segments each less than twice as long as broad. Clypeus shallowly circularly emarginated; malar space extremely long, about 5 times longer than diameter of front ocellus or about one-third of eye length. Eyes small, slightly coverging below, distance between eyes below less than twice length of an eye. Each mandible quadridentate. Postocellar area broader than long; occipital carina distinct on entire hind margin of head; frontal crests about antennae absent. Tarsal claws with inner tooth, inner tooth shorter than outer tooth and not appressed to outer tooth. Cenchri much farther apart than breadth of one. Anal crossvein of forewing perpendicular, not slanted, and at center of anal cell. Sheath in lateral view straight above, rounded below; in dorsal view, uniformly slender. Lancet as in fig. 4.

Male: Length, 9.0 to 9.5 mm. Coloration similar to that of female except for abdomen which is entirely black or with very small paired yellow spots on tergites 3 to 7. Texture and structure similar to that of female. Genitalia as in Figs. 2 and 3.

Distribution: Norway; Sweden; Siberia; United States (Alaska, Umiat, 21-VI-47, C. Schultz). The three Alaskan specimens (1 female, 2 males) are in the U.S. National Museum.

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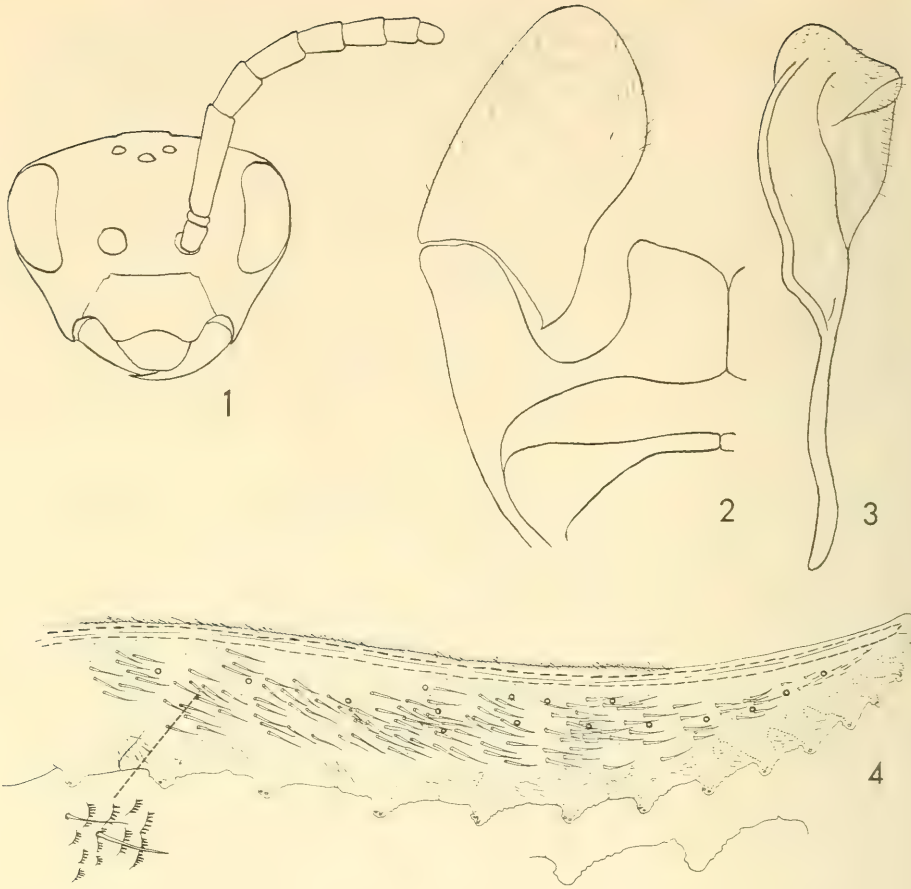

Figure Legends

Ischyroceraea arctica (Thomson). Fig. 1, head and antenna, front view; fig. 2, harpe and parapenis, male; fig. 3, penis valve, male; fig. 4, lancet, female, showing closeup of texture and two serrulae. Lancet drawn by Ann Lacey.

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
24(35):707-710, 1974

Records of a Few Vermont Aphids
(Homoptera: Aphididae)

Mortimer D. Leonard 1/

ıe following records are based on collections made by Philip R. ɜnedict of the University of Vermont during 1972. Of these, 7 ɜpresent new State records. These are indicated by an asterisk (*).

Aphis craccivora Koch (cowpea aphid). Addison, June 19 on Vicia sp., about 50 apterae and nymphs. Second record for Vermont.

Aphis fabae Scopoli (bean aphid). Westhaven, June 27 on Arctium minus, about 30 apterae and nymphs.

Aphis spiraericola Patch (spirea aphid). Thetford, July 31 on Spiraea sp., few apterae and nymphs.

Cryptomyzus ribis (Linnaeus) (currant aphid). Waterbury, June 20 on currants, few apterae and nymphs.

Dactynotus pseudambrosiae (Olive). New Haven, June 29 on Cichorium intybus. Third record for Vermont.

Dactynotus sp. Bridport, June 28 on dandelion, about 20 apterae.

Eriosoma americanum (Riley) (woolly elm aphid). Montpilier, July 5 on American elm, in curled leaves.

Hyadaphis foeniculi (Passerini). Bridport, June 29 very abundant on Pastinaca sativa.

Macrosiphum albifrons Essig. Waterbury, September 5 on Lupinus sp.

Macrosiphum euphorbiae (Thomas) (potato aphid). Montpilier, September 13 on Gladiolus sp., one alata, 15 apterae, and nymphs.

Neoceruraphis viburnicola (Gillette) (snowball aphid). Waitsfield, July 3 several on snowball tree.

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24(35):711, 1974

Weather of the week continued from page 688.

A cold front trailing from the upper Great Lakes triggered thunderstorms from western Texas into the middle Mississippi Valley Thursday. Overnight thunderstorms left locally heavy rains of one to 3 inches from western Missouri into west-central Illinois. By 1 a.m. Friday, Lubbock, Texas, measured 2 inches of rain, the heaviest 24-hour rainfall in 2 years. Later in the day, thunderstorms occurred from southeastern New York and southwestern New England to the Middle Atlantic Coast States. Saturday, thundershowers continued from Kansas to eastern New Mexico and extreme western Texas. During late afternoon and evening on Sunday, thunderstorm activity persisted over much of New England into eastern Virginia.

TEMPERATURE: Mild weather dominated most of the Nation last week. Temperatures averaging 3 to 5 degrees above normal were reported in States surrounding the Great Lakes area eastward through New England. Elsewhere, temperatures 3 to 4 degrees above normal were recorded at Huron, South Dakota; Phoenix, Arizona; and San Francisco, California. Cooler areas of the country included west Texas and New Mexico where temeratures fell 3 to 6 degrees below normal and from Nevada to North Dakota where temperatures were 3 to 4 degrees below normal. Monday, most of the Nation reported early afternoon temperatures in the 70's and 80's east of the Mississippi River and in the 70's in the Plateau region on Tuesday. Meanwhile, the 60's and 70's prevailed along the Pacific coast. Wednesday morning low temperatures ranged from 20 degrees at Big Piney, Wyoming, to 87 degrees at Key West, Florida. By midday, the sun had warmed temperatures into the 90's over the southeastern Plains and the lower half of the Mississippi Valley. Under the clouds in the northern Plains midday readings were only in the 50's. On Thursday, behind a cold front from the southern Rockies to the upper Mississippi Valley the temperatures plummeted into the 60's and 70's while it was much warmer ahead of the front in Texas where the 90's were most common. Friday, afternoon temperatures ranged from 42 degrees at Grand Forks, North Dakota, to 90 degrees at Blythe and Needles, California. Binghamton, New York, established a new record for the date with a temperature of 85 degrees. On Saturday, most of the Nation recorded temperatures in the 70's and 80's. However, a few 90's were reported in the Gulf Coast States and in the Desert Southwest. Sunday afternoon temperatures around the Nation ranged from 103 degrees at Palm Springs, California, to 63 degrees at Arcata, California; Caribou, Maine; and Cut Bank, Montana.

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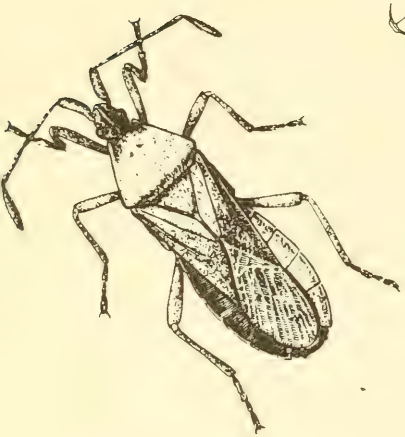

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Cooperative Economic Insect Report

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PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
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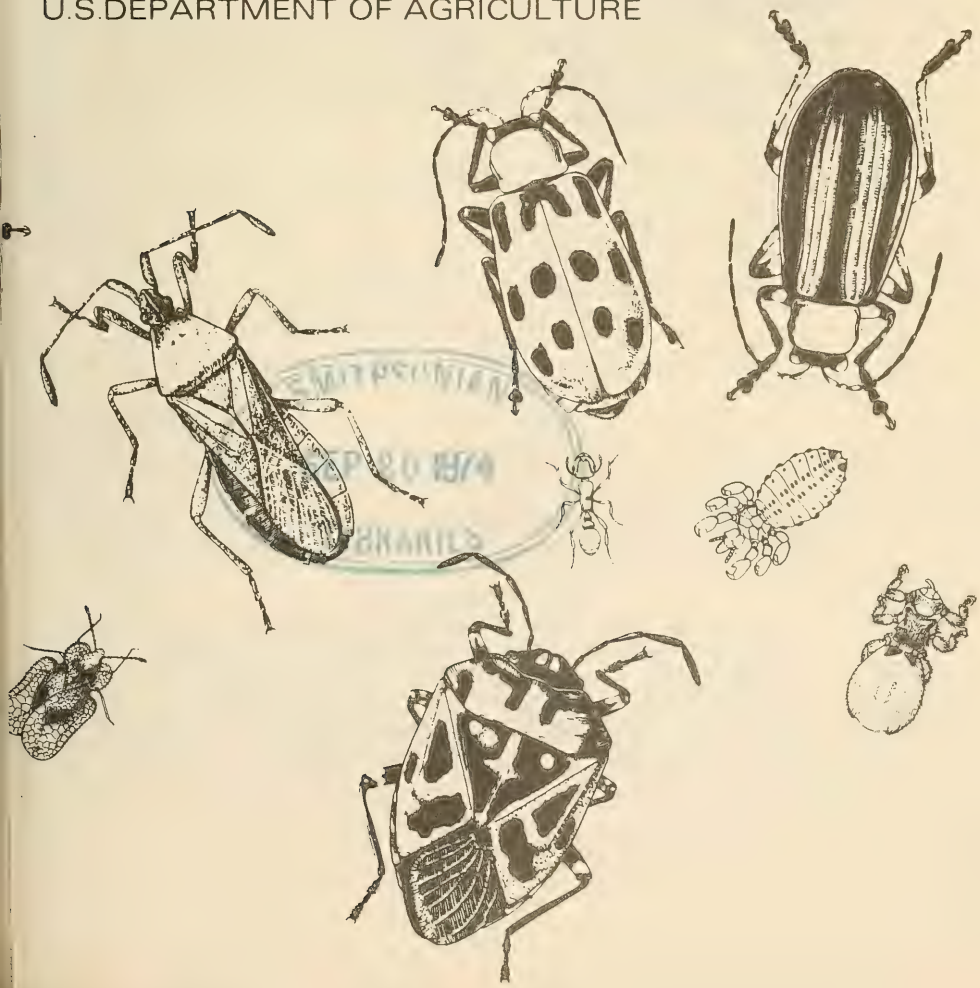

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Animal and Plant Health Inspection Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20782

Volume 24 September 6, 1974 Number 36

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

CORN EARWORM infestations in North Carolina soybeans not as severe as in 1973 and generally light over Mississippi; several hundred thousand acres of late soybeans in Arkansas vulnerable to infestation. (pp. 715-716).

CORN ROOTWORM annual adult survey in Minnesota showed increases in most areas over 1973. Beetle populations decreased on statewide basis in Illinois in 1974. (p. 717).

BOLL WEEVIL increased in cotton in south-central Texas, damage heavy in central area of State; activity increased in southeast Arkansas; damaging in other areas. BOLLWORMS still below control levels in Tennessee, oviposition heavy in Georgia, and pests serious threat in Alabama; heavy in some fields in all parts of Louisiana. (pp. 721-722).

HORN FLY annoyed cattle in Wisconsin, heavy in parts of Oklahoma and Texas. (pp. 725-726).

Adult GRASSHOPPER survey in Washington indicates lowest population in many years. (p. 726).

Detection

New State records were EUROPEAN ALFALFA BEETLE in West Virginia and a PENTATOMID BUG in Maryland. (p. 727).

For new county records see page 727.

Special Reports

European Alfalfa Beetle in the United States - 1974. (pp. 731-734).

Reports in this issue are for week ending August 30 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING SEPTEMBER 2

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: A Low originating in Canada collided with warm, moist air surging upward from the gulf and produced good rains measuring over 2 inches across a wide area from central New England to Oklahoma and southward to Texas. Heaviest rainfalls were recorded at Waco, Texas, 7.75 inches and Lexington, Kentucky, 6.16 inches. Elsewhere, a High pressure ridge along the Pacific coast kept the Western States dry. The Nation's midsection recorded below normal temperatures last week. The greatest departure was at Fargo, North Dakota, where temperatures averaged 11 degrees below normal. Temperatures were near normal or above in the eastern and western portions of the country.

PRECIPITATION: Precipitation in varying amounts fell across the Nation's eastern two-thirds last week, while the Far West remained virtually dry. Rains measuring 2 to over 7 inches soaked a broad section from Texas northward to Oklahoma and northeastward to central New England. Good rains fell in many parts of the Corn Belt last week. Eastern New Mexico continued to receive above normal precipitation. Elsewhere, locally heavy 2-inch rains were reported in several cities along the southern Atlantic seaboard: Savannah, Georgia, 3.08 inches, Wilmington, North Carolina, 2.30 inches. Monday, a tropical depression over southeast Texas produced showers and thundershowers across eastern Texas and the western half of the gulf coast. As a Low moved northward, associated thundershowers flooded some streets and small streams in west-central and northwest Oklahoma on Tuesday. Rainfall measuring 5 to 7 inches in portions of central Texas triggered flash flooding in Killeen. Wednesday, showers and thundershowers continued along a moist, cold front which curved from New England through an almost stationary Low in northeast Oklahoma and then into west-central Texas. Widespread thundershowers produced some Weather of the week continued on page 730.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - SOUTH CAROLINA - Heavy county-wide infestations of this species and Spodoptera frugiperda (fall armyworm) noted in Newberry County on sorghum, corn, and other forage crops. Some populations S. frugiperda only, some P. unipuncta only, and some mixed. This first report of S. frugiperda in State in 1974 and comes from same location as first 1973 report. (Thomas).

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Averaged 3 per 100 sweeps on roadside Russian thistle in Fresno County. Counts light on roadside weed hosts and in sugar beet fields near Los Banos, Merced County; heaviest counts 8 per 100 sweeps in beet field where no curly top found in 1,000 plants examined. No leafhoppers found on mustard or young sugar beets in Turner Island area of county. Tomatoes, beans, peppers, squash, and sugar beets checked in Santa Maria, Santa Ynez, Lompoc, and Buellton areas of Santa Barbara County showed little curly top damage and very light leafhopper counts. Curly top infestation of 10 percent found in one neglected field having heavy powdery mildew, many weeds, and needing water. (Cal. Coop. Rpt.).

CORN EARWORM (Heliothis zea) - NEW HAMPSHIRE - Second to fourth-instar larvae on late sweet corn at Milford, Hillsboro County, and Dover, Strafford County. (DelSignore). KENTUCKY - Larvae still light. About 85 percent of corn in dough stage or beyond compared to 75 percent this time in 1973. (Barnett). TENNESSEE - Larvae not damaging soybeans at present; however, moth flight expected next 10-12 days. If cotton has "cut out," and no late corn available for egg laying moths, late soybeans may become infested. Growers should keep close watch for larvae in pod-forming soybeans next 14-21 days. (Gordon). NORTH CAROLINA - Field surveys in 10 open canopy and 5 closed canopy soybean fields in Franklin, Nash, Halifax, Northampton, Bertie, and Edgecombe Counties revealed about half of larvae in fourth instar or larger. This is period when most pods damaged. Infestation not as severe as 1973, but economic in 5 of 10 open canopy fields examined. Infestation heaviest near Essex, Halifax County, with 4.5 larvae per row foot. No moths observed in fields and very few larvae found in late soybeans presently near peak bloom. (Hunt).

GEORGIA - Corn earworm larvae ranged light to moderate across peanut belt. (French). ALABAMA - Larvae occasionally found as pests in soybean fields throughout Mobile and Baldwin Counties. (Robinson, Strahan). MISSISSIPPI - In late-planted corn for silage in Pearl River County, 100 percent of ears infested with various instar larvae. (Combs). Infestations in soybeans generally light over State. Economic levels lighter in late-planted fields isolated from cotton. In Humphries County, one 300-acre field of late-planted soybeans isolated from cotton with eggs on 10 percent of plants. (Hillhouse).

ARKANSAS - Corn earworm larvae ranged 2-3 per row foot in heads of sorghum in dough stage in Arkansas County. Found in 11 of 25 soybean fields surveyed in southeast area. Larvae ranged 2-43 per 30 row feet in infested fields; averaged 12.7 per 30 row feet in infested fields, average for all fields 5.6. Early soybeans finished blooming and fully podded probably safe from possible

infestation. Several hundred thousand acres of late soybeans vulnerable to infestations by corn earworm will have to be watched for some time. (Boyer). MISSOURI - Light in sorghum in southern areas. Counts ranged 0-38 small larvae per 100 heads. Spodoptera frugiperda (fall armyworm) larvae ranged 0-12 per 100 heads. (Munson). WISCONSIN - Few H. zea moths in light traps. If problem is to develop moths should increase in blacklight traps soon. Cool weather may be inhibiting moth activity and there may be more moths present than blacklight trap catches indicate. (Wis. Ins. Sur.).

WASHINGTON - Damage by corn earworm to experimental corn plantings near Othello, Adams County, increased; up to 57 percent damage noted on one variety. Populations in field corn and sweet corn lighter than usual in Prosser area of Benton County and nearby lower Yakima County. Blacklight trap catches ranged 1-2 moths per night; in past years heavy catches consisted of hundreds per night. (Antonelli, Klostermeyer). UTAH - Larval infestation ranged 4-6 percent in 2 cornfields at Smithfield, Cache County. (Knowlton). NEW MEXICO - Counts ranged up to one larva per ear with one of three ears infested in Torrence County corn. (N.M. Coop. Rpt.).

GREENBUG (Schizaphis graminum) - SOUTH DAKOTA - Infested sorghum fields in Charles Mix and Brookings Counties noted with buildup of parasites and predators. In two fields where greenbug not controlled with chemical treatments, lacewings and parasites eliminated resistant population. Population still moderate to heavy in other randomly selected fields, close observation needed. Cooler temperatures will allow S. graminum populations to outpace parasites and predators. (Walgenbach). ARKANSAS - Light in sorghum in Arkansas County. Indications are that this pest had been present in rather light numbers on widespread basis, but apparently predators, parasites, and possibly disease had reduced counts. (Boyer). TEXAS - Light on sorghum in Pecos and Reeves Counties. (Neeb). NEW MEXICO - Ranged up to 20 per leaf on sorghum near Clovis, Roosevelt County. (N.M. Coop. Rpt.). CALIFORNIA - Problem on milo in Sacramento and San Joaquin Valleys this season. Treatments still being made in some fields. (Cal. Coop. Rpt.).

POTATO LEAFHOPPER (Empoasca fabae) - INDIANA - Surveys difficult in southern districts due to rains; however, no apparent economic infestations noted in 29 alfalfa fields surveyed. Populations in northern districts increased. Apparent decrease noted in northwest district due to harvesting of most heavily populated field, but increases noted in all other fields. North-central district increased from average of 9 per 10 sweeps to 10 and northeast district increased from average of 13 per 10 sweeps to 18. Immatures ranged from one-sixth to one-third adult total. (Ballard, Meyer). WISCONSIN - Populations over most of State remained at about 1-3 per sweep in soybeans with very few exceptions. If weather remains cool pest will be of reduced importance to late filling soybeans. (Wis. Ins. Sur.).

TOBACCO HORNWORM (Manduca sexta) - KENTUCKY - Began to increase in tobacco. Larvae, mostly first and second instar, averaged 5 per 100 plants. Populations of Heliothis spp. (budworms) somewhat lighter. About 80 percent of burley topped with about 20 percent of tobacco cut. (Barnett et al.).

CORN, SORGHUM, SUGARCANE

CORN ROOTWORMS (Diabrotica spp.) - SOUTH DAKOTA - Damage noted in several cornfields in Alcester area, Union County. Corn treated at planting and had moderate to severe root damage. Stalks lodged and tangled to extent row could not be followed across field. Growers and dealers requested to check fields and report all cases of rootworm damage. (Walgenbach). MINNESOTA - Annual survey completed. Five fields again chosen at random in each county in corn-growing districts. Beetle counts made in fields that were in corn in 1973. Reduced populations found only in east-central district. Increased in all other districts with 2-fold increases over 1973 found in 2 districts. Much increase in lodging noted, from average of one percent in 1973 to 10 percent in 1974. In at least southeast district, some additional lodging explained partly by unusually severe storms. Reason not easily defined in other areas. Evaluations to be made to determine if chemical controls ineffective due to moisture conditions or if beetles have developed resistance. D. virgifera (western corn rootworm) slightly more numerous (51 percent overall average) than D. longicornis (northern corn rootworm) 49 percent overall average. (Minn. Pest Rpt.).

WISCONSIN - Annual Diabrotica spp. adult survey about complete except for extreme northern and northeastern counties. Corn silks completely browned in several southwest counties and beetles have abandoned fields. Much root damage by larvae and heavy silk feeding by adults evident in several fields in western counties, but beetles have left fields in many cases. Survey revealed several fields had heavy larval damage earlier in season. Individual fields in St. Croix, Wood, Calumet, Winnebago, Columbia, Monroe, and Vernon Counties had 30-100 percent lodging in all or parts of fields. Many fields on slopes with 5-10 percent lodging; many of these fields received soil treatments at planting time. Heavy spring rains may have washed insecticide from root zone of corn. (Wis. Ins. Sur.). ILLINOIS - Beetle populations of D. longicornis (northern corn rootworm) and D. virgifera (western corn rootworm) decreased about 15 percent on statewide basis in 1974. Diabrotica spp. decreases recorded in 7 of 9 districts surveyed with no beetles found in 4 districts. In 1973, these 4 normally light districts averaged 6+ beetles per 100 corn plants. In northernmost 5 districts, where Diabrotica spp. populations traditionally heavy, populations decreased from average of 74 adults per 100 plants to 64 in 1974. Largest decrease was in northeast district where beetles averaged 103 per 100 plants in 1973 and 48 in 1974. Counts increased from 25 to 30 in west district and from 74 to 117 in central district in 1974. Of beetles found, 39 percent D. virgifera. (Ill. Ins. Rpt.). KENTUCKY - D. longicornis heavy in Daviess County corn. (Barnett, Gregory).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - INDIANA - Spectacular adult flight noted in Dunes State Park, Porter County, August 24. Mating clusters noted on ground and vegetation. Adults caused extreme annoyance by alighting on people, cars, and picnic tables. (Brattain). NORTH DAKOTA - Adults averaged 6 per plant in field of grain corn in Cass County. About 40 percent of plants lodged. (Brandvik). UTAH - Damage evident in some poorly pollinated sweet corn at Smithfield and Logan, Cache County. Corn stunted at one location at Logan and mostly lodged due to heavy larval infestation. Corn lodged at Hooper and Plain City, Weber County. (Knowlton, Roberts).

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - Blacklight trap catches indicated reduced moth activity due to cooler evening temperatures. Egg masses and larval feeding scarce in most sweet corn; however, few fields of sweet corn in southern districts with feeding evident on up to 60 percent of plants. Moth activity much reduced in Fond du Lac, Sheboygan, and Rock Counties, eggs difficult to find in any field. Observations in Piece and St. Croix County area revealed few egg masses on field or sweet corn, but up to 3 first-instar larvae found in silks of about 40 percent of plants in one field of field corn. Ear damage by first-generation larvae common between Wausau and New Richmond; general first-generation infestation apparently relatively heavy throughout same area. Outlook for next few weeks uncertain. Longer, cooler nights have adverse effect on this pest, but change to warmer weather might cause some problems to develop on late sweet corn. Growers advised to watch fields closely to determine necessity for treatment. (Wis. Ins. Sur.).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - MISSOURI - Counts in southwest area showed zero to 15 percent of field corn infested. Windstorm in area caused most infested plants to lodge. (Munson). NEW MEXICO - Some activity noted in corn in Roosevelt County. (N.M. Coop. Rpt.).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Midge emergence increased in sorghum in counties near Lubbock. Total emergence in sorghum for 1974 lighter than in 1973. Midge emergence should increase considerably. This pest also observed in few fields in northern part of Hale County area. (McIntyre, Latham).

BANKS GRASS MITE (Oligonychus pratensis) - TEXAS - Continued to decrease on sorghum in Pecos and Reeves Counties; due primarily to recent rains in area. Again caused concern to some South Plains producers. Warmer weather past 7 days again caused populations to increase. Numerous fields throughout High Plains area treated. Recent rains in High Plains area expected to again decrease populations. (Neeb et al.). NEW MEXICO - Populations decreased in sorghum in Luna and Grant Counties; 1-2 colonies per plant reported in Roosevelt County with no visible damage. (N.M. Coop. Rpt.).

TURF, PASTURES, RANGELAND

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - OKLAHOMA - Infested about 50 percent of stalks in field of hybrid Sudan grass in Cleveland County. (Okla. Coop. Sur.).

FALL ARMYWORM (Spodoptera frugiperda) - ALABAMA - Larvae ranged 1-5 per stalk of Sudan grass in research plots at Atmore, Escambia County. (Lemons).

GREEN JUNE BEETLE (Cotinus nitida) - MISSOURI - Although adult populations lighter in pastures than in 1973, counts in one test area ranged 50-60 larvae under each hay bale. (Huggans).

TWOLINED SPITTLEBUG (Prosapia bicincta) - ALABAMA - Nymphs and adults heavy and widespread in Mobile County, damaged lawn grasses and one commercial grass farm. Heavy in lawns at two locations in Lee County. (Strahan, Henderson).

SOUTHERN MOLE CRICKET (Scapteriscus acletus) - ALABAMA - Adults badly damaged golf greens in park at Monroeville, Monroe County. Treatments applied. (Lemons).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - MISSOURI - Counts in alfalfa in east-central and central areas ranged 0-13 adults per 10 sweeps. Larvae very light in most fields checked. (Munson). NEW MEXICO - Up to 5 adults and 25 larvae per 25 sweeps recovered from alfalfa in Torrence County. (N.M. Coop. Rpt.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - INDIANA - Adult infestation in south-central district alfalfa fields about same as previous week. Average counts per 10 sweeps by county as follows: Harrison 3, Washington 6, Jackson 1. Adults averaged 13 per 10 sweeps in one field. Larvae taken in several fields. (Meyer).

PEA APHID (Acyrthosiphon pisum) - ARIZONA - Averaged 320 per 100 sweeps of alfalfa in west Phoenix area of Maricopa County. (Ariz. Coop. Sur.).

MEADOW SPITTLEBUG (Philaenus spumarius) - INDIANA - Adults averaged about 8 per 10 sweeps in southwest district alfalfa, increased from 12 per 10 sweeps to 17.5 per 10 sweeps in south-central districts. Averaged 1, 3, and 6 per 10 sweeps in northwest, north-central, and northeast districts, respectively. (Ballard).

GUAR MIDGE (Cecidomyia texana) - TEXAS - Heavy in guar fields in Haskell, Knox, Hardeman, and Wilbarger Counties. Generally light on guar in Nueces, Uvalde, McCulloch, and Zavala Counties. (Boring, Rogers).

FIELD CRICKETS (Gryllus spp.) - NORTH DAKOTA - Up to 20 per square yard in alfalfa and flax in Cass County. Some light boll clipping in flax. Ranged up to 200 per square yard in field margins and roadsides. Problem in homes and other buildings. (Brandvik).

SOYBEANS

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - NORTH CAROLINA - Heavy populations in soybeans experienced in 1973 have not materialized in 1974. To date, samples in 70 fields scattered over Coastal Plain revealed very few larvae. Little damage expected except possibly to very late soybeans. (Hunt). GEORGIA - Infestations light to heavy in many Berrien County fields, treatments necessary. (Wood, Suber).

SOYBEAN LOOPER (Pseudoplusia includens) - LOUISIANA - Larvae defoliated 100 percent of 50 acres in St. Landry Parish. Pods not filled, too late for full recovery. Controls applied too late. Estimated loss at 10-15 bushels per acre. (Coburn, Jensen).

FALL ARMYWORM (Spodoptera frugiperda) - TENNESSEE - Larvae heavy and fed on late soybeans in Lake County. Controls in order in some cases. (Martin, Johnson).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MISSISSIPPI - Moderate in soybeans in George County. Larval counts and foliage damage increasing. (Robinson).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MISSISSIPPI - Increased in northeastern area. Some defoliation near economic levels. (Robinson).

SOUTHERN GREEN STINK BUG (Nezara viridula) - ALABAMA - Increased and damaged pods in numerous fields in Baldwin and Mobile Counties. (Robinson, Strahan).

REDLEGGED GRASSHOPPER (Melanoplus femurrubrum) - WISCONSIN - Continued moderate to heavy in field margins near grassy roadsides but still light within fields. (Wis. Ins. Sur.).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - IOWA - Infested 3 fields in Polk, Guthrie, and Madison Counties. Infestations heavy in small portions of fields, apparently spreading. Some plants killed. (Iowa Ins. Sur.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Populations appear to have increased in many south-central counties. Most increases appear due to concentration in terminals of mature cotton. Many producers in central area experienced heavy damage. Heavy infestations noted in irrigated fields in Knox, Baylor, and Wilbarger Counties of Rolling Plains; 40-85 percent square damage observed. Increased boll damage in these fields also evident. Controls were scheduled to start first part of last period in High Plains diapause control program. Counties where control to be conducted in Rolling Plains are Motley, Dickens, Kent, and Hall. Very light to no activity detected in fields in St. Lawrence Community, Glasscock County; weevils light in isolated fields in eastern part of county. In fields east of Garden City, weevil activity light with one punctured square observed for 500 squares inspected. (Cole et al.).

OKLAHOMA - Boll weevil punctured squares ranged up to 53 percent in Tillman County, up to 38 percent in Jackson County, up to 33 percent in Kiowa County, up to 28 percent in Greer County, up to 8 percent in Harmon County, and ranged 7-49 percent in Grady County. (Okla. Coop. Sur.). ARKANSAS - Activity increased in most of southeast area, but numbers not at high level except in few isolated cases. (Boyer). LOUISIANA - Percent of fields checked at or above economic threshold as follows by parish: St. Martin 40, Catahoula 69, Bossier zero, St. Landry 62, and Rapides 6. (St. Cloud, Couburn). MISSISSIPPI - Weevils and larvae numerous in most fields in hill sections. Many fields with 50+ percent punctured squares. (Robinson). ALABAMA - Infestation continued at 5-20 percent square damage in most of 600,000 acres of cotton, with counts of 10-40 percent in much of northern area cotton. Treatments applied throughout State. Damage heavier in mountain and valley cotton of northern area than in several years. (McQueen).

GEORGIA - Boll weevil population pressure not as heavy in cotton as previous 2 weeks, probably due to good control efforts and fewer showers. Average percent punctured squares by county as follows: Burke 6, Colquitt 24, Crisp 12, Dooly 3, Terrell 12. Populations below economic threshold in many fields. (Boone). TENNESSEE - Punctured squares ranged 9-43 (average 23) percent in Fayette County. Most fields in McNairy County at 20-percent level, with counts heavier in few fields. Many fields in Henderson County above 30 to 50-percent punctured squares level; heavier than last period. Conditions still ideal for further damage increase. Migration continued to fields of rank cotton. Controls difficult, but results better than expected. Frequent rains disrupted control pattern and some infestations in "run-away" status. (Locke, Patrick). In central area, punctured squares ranged 20-97 percent in fields surveyed. Cotton in area "cutting out" and square counts did not reflect true picture as only few squares left in fields. (Cagle).

BOLLWORMS (Heliothis spp.) - TENNESSEE - H. zea (bollworm) continued below control levels in all areas. Very unusual for this time of year. (Patrick et al.). GEORGIA - H. zea oviposition still heavy with up to 206 eggs per 100 terminals in many fields. Eggs per 100 terminals averaged as follows by county: Burke 17, Colquitt 21, Crisp 33, Dooly 16, Terrell 32. Larvae per 100 terminals ranged 2-4. (Boone). ALABAMA - Heliothis sp. much heavier and over wider area of State than past 3-5 years. With shortages of proper larval insecticides and improper applications, bollworms pose serious threat to thousands of acres in all parts of State next 21 days. (Smith et al.).

MISSISSIPPI - H. zea and H. virescens moths continued to lay eggs in green cotton. Some cotton "cutting out" and unattractive. In Noxubee County where cotton still green, 90-95 percent of population H. virescens. Heaviest infestations appear to be in hill counties where 50-75 percent of terminals infested with eggs and small larvae in some fields. However, in some fields in Quitman, Coahoma, Sharkey, Sunflower, and Tallahatchie Counties, 20-30 percent of plants with eggs. (Robinson). LOUISIANA - Percent of fields checked for Heliothis spp. and at or above economic threshold as follows by parish: St. Martin 24, Catahoula 39, Bossier 29, St. Landry 19, and Rapides 26. (St. Cloud, Coburn). Larvae of H. virescens (tobacco budworm) destroyed 50 acres of cotton in Rapides Parish. Controls ineffective. Heliothis spp. larvae heavy in some fields in all parts of State. Egg laying continued, all fields subject to egg laying. Green, tender growth most attractive to moths. No decrease in egg laying expected next 7 days. H. virescens comprises high percentage of larvae in cotton and will continue so remainder of season. These larvae difficult to control with chemicals available, therefore there will be more larvae and more larval damage after control applications than in previous years. Next 21 days are eritical period for larval control. (Tynes).

ARKANSAS - H. zea and H. virescens increased in most of southeast area. Control effective in most cases except few isolated areas in Ashley and Arkansas Counties where populations, primarily H. zea, difficult to control. Overall controls below normal. Number of fields not treated as yet in Jefferson County, which is unusual. Many other fields treated for first time this period.

Record of light trap catches (one trap per location) as follows: Coy (August 14-20) H. zea 3,612, H. virescens 46; Newport (August 16-24) H. zea 99, H. virescens zero: Kelso (August 22-28) H. zea 80, H. virescens 7: Pickens (August 22-28) H. zea 297, H. virescens 8. Heliothis spp. moths in light traps continued heavier at Coy, Lonoke County, than any other area. (Boyer). OKLAHOMA - Heliothis spp. eggs ranged 7-60 per 100 terminals in Jackson, Tillman, Greer, Kiowa, and Harmon Counties, larvae ranged 8-18 per 100 terminals, and damaged squares ranged 6-20 percent. Damaged squares ranged 5-10 percent in Grady County. (Okla. Coop. Sur.).

TEXAS - H. zea and H. virescens very heavy in green succulent cotton throughout south-central area. Examinations showed 85-100 percent of larvae collected from infested fields were H. virescens. Fields which had defoliants applied show large reduction in Heliothis spp. eggs. Increased activity reported in irrigated fields in Wilbarger and Knox Counties. About half of larvae in most fields H. virescens. These infestations caused heavy square damage in some fields. Activity light in Fisher and Kent Counties. H. virescens increased in most fields in Trans-Pecos area; comprised about 70 percent of population in area. In Pecos and Reeves Counties, 5-50 eggs per 100 terminals with 0-12 small larvae; 3-15 percent damaged squares reported per 100 terminals. In Glasscock, Reagan, Upton, Midland, and Martin Counties, eggs ranged 0-20 per 100 terminals with 0-4 small larvae, and 0-8 percent damaged squares per 100 terminals. (Cole et al.). ARIZONA - Heliothis spp. being closely watched on young cotton at Yuma, Yuma County. (Ariz. Coop. Sur.).

BEET ARMYWORM (Spodoptera exigua) - OKLAHOMA - Moderate to heavy in cotton in Jackson and Greer Counties. (Okla. Coop. Sur.). ALABAMA - Larvae light to moderate in many Russell County fields. Some larvae noted in Autauga County. (Lowery, Horn). GEORGIA - Treatments required to control heavy infestations, up to 27 percent damaged squares, in Dooly County. (Boone).

CABBAGE LOOPER (Trichoplusia ni) - OKLAHOMA - Heavy in cotton in Jackson and Greer Counties, moderate in Harmon and Tillman Counties. Larvae dying of virus disease in some Jackson County areas. (Okla. Coop. Sur.). MISSISSIPPI - Heavy egg deposition noted in Noxubee, Monroe, and Ittawamba Counties. Some light defoliation occurring; however, as usual this time of year, many larvae diseased. (Robinson).

BANDEDWING WHITEFLY (Trialeurodes abutilonea) - MISSISSIPPI - Damaging populations developed where conditions good. Most fields have heavy populations around borders. Where damage present, infestations general throughout field. (Robinson).

TOBACCO

GREEN PEACH APHID (Myzus persicae) - KENTUCKY - Populations peaked in central area tobacco August 15-20 and decreased during past week. (Barnett et al.).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - KENTUCKY - Adults remained lighter in tobacco than at this time in past years. (Barnett et al.).

POTATOES, TOMATOES, PEPPERS

EUROPEAN CORN BORER (Ostrinia nubilalis) - DELAWARE - Infestations in untreated sweet peppers averaged 45 percent in western Sussex County. Adults in blacklight trap collection averaged 50 per night in this area. (Burbutis).

TOMATO PINWORM (Keiferia lycopersicella) - NEVADA - Heavily infested tomatoes in Las Vegas area, Clark County. Populations and damage above previous years. (Zoller).

BEANS AND PEAS

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - Moth flight still very heavy in Jefferson and Columbia Counties. Although counts in other areas of State still heavy, they have started to decrease. No egg masses or early instar larvae found in beans checked in Portage County. Egg laying should continue next 7 days and depending on temperatures, egg hatch should occur for another 7-14 days. (Wis. Ins. Sur.).

COLE CROPS

CABBAGE LOOPER (Trichoplusia ni) - WISCONSIN - Pheromone trap catch in field of cabbage in Columbia County indciates moth flight well underway. Small larvae observed in Columbia County as well as field in eastern Waupaca County. Egg hatch should continue next 7-14 days in Columbia County area. (Wis. Ins. Sur.).

GENERAL VEGETABLES

GRANULATE CUTWORM (Feltia subterranea) - ALABAMA - Damaging larval infestation in 1,000+ acres of sweetpotatoes in Cullman County brought under control by quick and through effort on part of concerned growers. (Spears).

GLASSY CUTWORM (Crymodes devastator) - OREGON - Moths in Willamette Valley blacklight traps continued to decline since peak of first week of August. Adults taken at St. Paul, Marion County, as follows: 2,093 August 8-14; 1,519 August 15-21. (Penrose).

CABBAGE LOOPER (Trichoplusia ni) - OREGON - First reported adult of season in Willamette Valley taken in blacklight trap at Coburg, Lane County, during period August 22-25. (Penrose).

ASPARAGUS BEETLE (Crioceris asparagi) - NEVADA - Adults active on asparagus at Weeks, Lyon County, August 21, 1974. Collected and determined by R.C. Bechtel. This is a new county record. (Bechtel).

DECIDUOUS FRUITS AND NUTS

PECAN WEEVIL (Curculio caryae) - GEORGIA - Adults emerged at slightly reduced rate in Peach County. (Payne). Adult emergence declined to one per trap per week in Pike County. (Tippins). Adult populations normally rise and fall several times. Increased emergence can be triggered by rainfall and emergence will vary from area to area. Pecan growers should continue recommended treatments on schedule. (Harris). MISSISSIPPI - Emergence noted in Hinds, Newton, Rankin and other southern area counties. (Robinson). OKLAHOMA - Heavy on Kay County pecans. Treatments applied in most southwest counties. (Okla. Coop. Sur.). TEXAS - Very heavy on pecans in counties around Erath County. Field checks in Hamilton County indicated up to 15-25 weevils per tree. In Erath County, weevils averaged 6 per tree. Most pecans still in water stage and feeding caused pecans to shed prematurely from trees. Pecan producers with heavy emergence will need insecticide application now to prevent shed of pecans and repeated applications may be needed after pecans reach dough stage. Controls applied in Young and Baylor Counties. (Hoelscher, Boring).

FILBERTWORM (Melissopus latiferreanus) - OREGON - Adult catches in blacklight trap at Pleasant Hill, Lane County, declined substantially during late August indicating moth activity about complete in southern portion of Willamette Valley. Counts as follows: 87 August 8-14; 50 August 15-21; one August 22-24. (Tinker).

YELLOW PECAN APHIDS (Monellia spp.) - MISSISSIPPI - Heavy on pecans in Lowndes, Noxubee, Oktibbeha Counties. (Robinson). TEXAS - Very heavy in pecans in portions of some counties throughout south-central area. Moderate in home orchards in Wilbarger, Wichita, Baylor, Knox, Throckmorton, and Young Counties. Ranged 0-80 per compound leaf on pecan trees in Pecos, Reeves, Glasscock, Upton, and Ward Counties. (Cole et al.).

BLACK PECAN APHID (Tinocallis caryaefoliae) - GEORGIA - Occasional light populations caused light damage in Peach County (Gentry); caused light damage in Tift County (French).

ORNAMENTALS

A WEEVIL (Otiorhynchus meridionalis) - NEVADA - Adults caused moderate damage to lilac at Virginia City, Storey County. Collected by L.W. Barclay and R.C. Bechtel August 21, 1974. Determined by R.C. Bechtel. This is a new county record. (Bechtel).

A MEALYBUG (Ehrhornia cypressi) - NEW MEXICO - Heavy on Arizona cypress at University Park, Dona Ana County. Originally collected April 20, 1974. Activity continued throughout summer. (N.M. Coop. Rpt.).

FOREST AND SHADE TREES

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - SOUTH CAROLINA - Known and suspected outbreak areas surveyed during June, July, and early August 1974. Decline noted in Piedmont section during early observations where outbreak began in 1971; involved Cherokee, York, Union, and Spartanburg Counties. Other sections continue to have many active areas. Survey now being conducted in Piedmont to evaluate current conditions. Coastal counties currently area of most concern. Beetle activity increased significantly since March 1974 survey. Outbreak covers parts of Beaufort, Jasper, Charleston, Dorchester, Berkeley, Georgetown, Williamsburg, and Horry Counties. Population increasing rapidly in most spots. Presuppression flights made in heavily infested areas. Attempt at promptly salvaging as many spots as possible in progress. This is essential to minimize losses and prevent spread of D. frontalis. (Thomas). ALABAMA - Several small infestations in pines noted in southern Baldwin County. Trees being killed. (Strahan, Hertel).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - ALABAMA - Numerous larvae and adults damaged 4 to 6-inch pines in farm planting at Rangeville, De Kalb County. Treatments applied. (Braham).

AN ENGRAVER BEETLE (Ips calligraphus) - ALABAMA - Infestations of this species and I. avulsus killed numerous pine trees in groups of 2-40 in several locations at Summerdale, Baldwin County, and in Mobile and Lee Counties. (Hertel et al.).

ELM LEAF BEETLE (Pyrrhalta luteola) - SOUTH CAROLINA - Heavy infestation noted on elms in Pickens County. (Pollet). OKLAHOMA - Third-generation larval populations and damage increasing rapidly on Siberian elms in Payne County area. (Okla. Coop. Sur.).

MAN AND ANIMALS

HORN FLY (Haematobia irritans) - FLORIDA - Averaged 250 per head on cross-bred steers at Belle Glade, Palm Beach County; lighter than usual for time of year. (Fla. Coop. Sur.). MISSISSIPPI - Ranged 150-200 per head on Oktibbeha County untreated pastured beef cattle. (Combs). ARKANSAS - Counts per head on cattle by county: Giles 25-100, Weakley 10-25. (Watson, Turpen). INDIANA - Populations of this species and unspecified horse flies decreased to negligible on several lots of black cattle on experimental farm in Grant County. (Dobson). Horse flies very heavy in Warren County especially in late afternoon and early evening. Attacks numerous on calves, horses, and sheep. Wooded pastures avoided by grazing livestock, many stop grazing at sunset to seek shelter. (Chandler). ILLINOIS - Horn fly counts per head on pastured cattle averaged as follows by county: Grundy 11, Peoria 153, De Witt 248. (Ill. Ins. Rpt.).

WISCONSIN - Horn fly quite bothersome to cattle in some areas, about 65 per side common on some herds. Some decrease in activity observed due to cooler weather, but activity intense on some herds in early afternoon when temperature at maximum. (Wis. Ins. Sur.). OKLAHOMA - Ranged 800-1,000 per head on cattle in Ellis County, averaged 200 per head in Payne County. Heavy in Comanche County, moderate in Haskell and Pontotoc Counties. (Okla. Coop. Sur.).

TEXAS - Horn fly in Bell, Falls, and McLennan Counties, ranged 1,000-1,500 per animal. These heavy populations caused body sores on lower areas of cattle. Counts moderate to heavy on cattle in Pecos, Terrell, Upton, Crockett, and Reagan Counties. Light to moderate on cattle in Brewster and Jeff Davis Counties. (Hoelscher, Neeb).

NEW MEXICO - Horn fly ranged up to 1,000+ per head on range cattle in Grant and Catron Counties. Some of these cattle appeared to be a swarming mass of flies. (N.M. Coop. Rpt.). UTAH - Moderate on range cattle in Tony Grove Canyon in Cache County. (Knowlton). COLORADO - Ranged up to 200 per head on untreated Weld County cattle. (Hantsbarger).

FACE FLY (Musca autumnalis) - ARKANSAS - Ranged 10-25 per head on cattle checked in Giles County; none found in Weakley County. (Watson, Turpen). ILLINOIS - Average counts per head on pastured cattle by county: Grundy 20, Peoria 50, De Witt 16. (Ill. Ins. Rpt.). INDIANA - Ranged 0-25 (average 10) per face on several lots of black cattle on experimental Grant County farm. (Meyer). MISSISSIPPI - Averaged 20+ per face on cattle in Monroe, Lee, and Chickasaw Counties. In Oktibbeha County, ranged 2-3 per face on 35 beef cows. (Robinson).

STABLE FLY (Stomoxys calcitrans) - WISCONSIN - Annoyance to cattle moderate in Rock and Kewaunee Counties. (Wis. Ins. Sur.). ILLINOIS - Average counts per head on pastured cattle by county: Grundy 0.6, Peoria 2.6, De Witt 8.4. (Ill. Ins. Rpt.).

MOSQUITOES - OKLAHOMA - Numerous and annoying in evening hours in Payne County area. At least two Psorophora spp. present and light Anopheles spp. populations taken. Psorophora spp. larvae ranged up to 60 per dip in some areas of county. (Okla. Coop. Sur.). MINNESOTA - Light trap collections in Metropolitan Mosquito Control District totaled 4,360 female mosquitoes during period August 17-23; this about 3 times total captured previous period and largest total since week of July 13. In evening bite collections, Aedes vexans 95 percent and A. stimulans 5 percent. In daytime field collections A. vexans and A. stimulans again most important species; 10 other species also taken. A. triseriatus present in 59 percent of larval collections, Culex restuans in 19 percent. (Minn. Pest Rpt.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

A GRASSBUG (Labops hesperius) - UTAH - Active in wet meadows in Ephraim Canyon, Sanpete County, at 9,000 feet elevation; averaged 35 per 5 sweeps and 5 per 10 sweeps at 10,000 feet elevation August 23. Giant ryegrass and intermediate wheatgrass badly discolored and damaged. (Haws).

GRASSHOPPERS - WASHINGTON - Recently completed rangeland adult survey indicates lowest population in many years. Less than 35,000 acres with 8 or more grasshoppers per square yard. Melanoplus sanguinipes adults migrated across highway east of Prosser and Benton City, Benton County, and at Moxee, Yakima County. Other localized infestations present in Adams, Okanogan, Ferry, Stevens, and Spokane Counties. (Jackson).

JAPANESE BEETLE (Popillia japonica) - OHIO - Adults fed on soybeans in Scioto County. Ranged up to 5 per plant, but counts varied from one per 2 row feet to one per 50 row feet. Mating observed. (Fox).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Treatments applied to younger cotton stands at Yuma, Yuma County. Picking and ginning underway. Defoliation treatments made to many acres in county. Larval counts still light at Safford, Graham County. Overlapping generations present in Marana area, Pima County. Few cotton fields on spray program but larval counts light. Spray treatments continued in Maricopa County. No larvae found in wild cotton checked in Texas Canyon in Cochise County. (Ariz. Coop. Sur.). NEW MEXICO - Two damaged bolls recovered. Total of 40 moths collected from sex lure traps indicating 25-percent increase in flight activity over last period in Dona Ana County. (N.M. Coop. Rpt.). TEXAS - Populations noted in cotton throughout most central counties. Late set bolls have numerous larvae. Field cleanup will be necessary to reduce populations for next year. Light to moderate numbers reported in isolated fields in Pecos and Reeves Counties. In Glasscock, Reagan, and Upton Counties, boll infestations light with isolated areas having moderate infestations. (Hoelscher, Neeb).

WHITEFRINGED BEETLES (Graphognathus spp.) - ALABAMA - Adults feeding freely in large numbers on peanuts, soybeans, and other plants over several square miles of cropland in the New Brockton area of Coffee County, in the Hartford area of Geneva County, and in the Lockhart area of Covington County. (Johnson).

DETECTION

New State Records

EUROPEAN ALFALFA BEETLE (Subcoccinella vigintiquatuorpunctata) WEST VIRGINIA - Adults collected on bouncing bet at Shenandoah Junction, Jefferson County, at Hancock, Morgan County, and in Berkeley County, August 27, 1974, by J.D. Hacker. Determined by R.D. Gordon. (Hacker).

A PENTATOMID BUG (Proxys punctulatus) - MARYLAND - Adult taken in blacklight trap at marine terminal at Cambridge, Dorchester County, July 12, 1974, by R.L. Davis. Determined by J.L. Herring. (PPQ).

New County Records - ASPARAGUS BEETLE (Crioceris asparagi) NEVADA - Lyon (p. 723). A WEEVIL (Otiorhynchus meridionalis) NEVADA - Storey (p. 724).

CORRECTIONS

CEIR 24(35):693 - TURF, PASTURE, RANGELAND - RANGE CATERPILLAR (Hemileuca oliviae) - Delete note. Should have read GRASSHOPPERS. (N.M. Coop. Rpt.).

General Vegetables - Pupae of DIAMONDBACK MOTH (Plutella xylostella) light to moderate in 2 acres of head cabbage at Kula, Maui. Larvae and pupae light in 15+ acres of head cabbage and cauliflower at Volcano and Waimea, Hawaii Island. Although populations and damage light, pest remains problem on crucifers at these locations throughout most of year. Damage by IMPORTED CABBAGEWORM (Pieris rapae) variable in head cabbage on Maui and Hawaii Islands; moderate to heavy on formative heads in 2 acres of head cabbage at Kula, Maui, but recent control applications alleviated problem. Damage light in 10+ acres of same crop at Volcano and Waimea; only few larvae found. Damage by LEAFMINER FLIES (Liriomyza spp.) light to moderate on about one acre of celery at Waimea. No damage found on several acres of same crop. Damage light to small tomato planting at same location. (Miyahira, Mau).

Fruits and Ornamentals - Several undetermined larvae that fit larval description of a NOCTUID MOTH (Anua indiscriminata) found on strawberry guava (Psidium cattleianum) at Kahala, Oahu; two of these larvae pupated. (Shiroma). BANANA SKIPPER (Erionota thrax) light on banana at Wailua, Kapahi, Lihue, and Kipu on Kauai. Eggs, larvae, and pupae recovered; no adults observed. Damage light and almost unnoticeable. Less than 5 percent of banana plants damaged. Larval damage observed on Heliconia foliage at Lihue, but no larvae found. (Sugawa et al.). Islandwide survey for ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) on Oahu completed August 23. No new infested areas found other than those already reported. All orchids inspected during survey found uninfested. Random survey of citrus and rose plants at Lihue, Kapaa, Wailua, Kapahi, and Waimea revealed no infestations. (Mau). Damage by CHINESE ROSE BEETLE (Adoretus sinicus) light to moderate in 8 acres of grapes at Ulupalakua, Maui; about one percent of plants heavily damaged, but foliage damage to rest of plants light. Heavy damage observed on 30+ rose plants at Kahului, and light on similar number at Wailuku, Maui. (Miyahira).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL - blacklight; I - incandescent; MV - mercury vapor; O - other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (salt marsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellow-striped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARIZONA																								
Mesa 8/10-25			BL	24		7				18						6		1		2178		185	192	
FLORIDA																								
Gainesville 8/23-29			BL					6	1	8						2			4	4	5	9	1	
KENTUCKY																								
Lexington 8/27-30			BL	1												1			5			15		
MINNESOTA																								
Fergus Falls 8/22-28			BL					5											4					
Worthington 8/22-28			BL																5					
MISSISSIPPI																								
Stoneville 8/23-29	68-93	0.31	2BL	33	2			41	103	787						1			18	100	67	373	3441	
NEW HAMPSHIRE																								
Lee 8/26			BL	1									1						1					
NEW JERSEY																								
Seabrook 8/21-27			7BL	6						10		24					24				3			
NEW MEXICO																								
Las Cruces 8/26-30			4BL							40					71	42								
OHIO																								
Wooster 8/24-30			BL	19													85	38	62		98	11	4	
OREGON (Counties)																								
Linn 8/26-30			BL	38														31						
Marion 8/26-30			BL	12														54						
TENNESSEE (Counties																								
Hardeman 8/26-30			BL	18	1														24			46		
Madison 8/26-30			BL	4	3					3					1	1			4			5		
WISCONSIN																								
Cedar Grove 8/21-26			BL														53		13					
Hancock 8/22-28			2BL														49	1	1					

Weather of the week continued from page 714.
heavy rain from the middle Atlantic coast to the southern Plains on Thursday. Gurdon, Arkansas, and Smithville, Oklahoma, each received nearly 3 inches of rain. Friday, heavy rains continued from the Atlantic coast to the southern Plains. Persistent rain produced flooding of many streams and city streets from Texas to Georgia. A cold front moving through the Midwest caused thundershowers from Lower Michigan through Missouri into eastern Colorado on Saturday. Locally heavy rains soaked southern Arkansas. On Sunday, a cold front continued to trigger numerous thundershowers from the Ohio Valley into the central Plains.

TEMPERATURE: Unseasonably cool air covered the Nation's midsection while eastern and western perimeters remained abnormally warm during the week. The Midwest recorded temperatures averaging 6 to 11 degrees below normal. In the Pacific Northwest, temperatures averaged from 7 to 11 degrees above normal, while along the mid-Atlantic seaboard temperatures were 6 and 7 degrees above normal. Monday, most of the Nation enjoyed fair weather. Maximum temperatures ranged from 59 degrees at Brookings, Oregon, to 113 degrees at Blythe, California. A cold front stretching through the Midwest produced some sharply contrasting temperatures early Tuesday morning. Morning lows just to the south of the front were in the low 70's while behind it most places were in the 40's. Wednesday, most of the Nation reported early morning temperatures in the 60's. A major exception was south of a cold front from the southern Plains to the mid and lower Atlantic coast where temperatures were generally in the 70's. Cool air settled over the Nation's midsection on Thursday. Early morning low temperatures dropped into the 30's in parts of the northern Plains. St. Joseph, Missouri, recorded 44 degrees, a record low for this date. Friday, maximum temperatures ranged from 56 degrees at Lewiston, Montana, to 111 degrees at Blythe, California. The coolest temperature was 34 degrees at Estes Park, Colorado. Unseasonably cool air pushed deeply into the central Plains and mid-Mississippi Valley and upper Great Lakes area on Saturday. Early morning temperatures dipped into the 30's in portions of the Dakotas. Sunday, a High pressure center over Iowa brought cool overnight temperatures from the northern Rockies to the Great Lakes. Nighttime readings were in the 30's in parts of North Dakota and Minnesota.

European Alfalfa Beetle in the U.S.-1974

Introduction: The collection of two live adults of European alfalfa beetle (Subcoccinella vigintiquatuorpunctata (L.)) in meadowlands near Hackensack in Bergen County, New Jersey, June 28, 1973, by R.L. Jacques were thought to be the first record of this phytophagous coccinellid in the United States. The specimens were determined by R.D. Gordon in May 1974. However, an adult found resting on crown vetch (Coronilla varia) near Manada Hill in Dauphin County, Pennsylvania, August 15, 1972, by A.G. Wheeler, and confirmed by T.J. Henry, predated the find in New Jersey as the first record in this country.

Distribution: European alfalfa beetle is a phytophagous species in the same subfamily (Epilachninae) as Epilachna varivestis Mulsant (Mexican bean beetle), and has been reported as a serious pest of alfalfa in temperate and southern Europe and in Turkey. Damage has been recorded frequently in England, Germany, Denmark, and France, and has been reported in Italy and Iran. In the United States, this coccinellid has been recorded from one county in Maryland, 6 counties in New Jersey, 3 in Ohio, 19 in Pennsylvania, and 3 counties in West. Virginia. This pest has been intercepted one time in the U.S., on Crataegus sp. for propagation at Hoboken, New Jersey, February 26, 1948, in passenger baggage.

Distribution of Subcoccinella 24-punctata

Hosts: European alfalfa beetle is a pest principally of alfalfa (lucerne) in Europe, but apparently it can also live upon other legumes, particularly clover. It has been recorded on 70 species of plants in 12 families including beet, carnation, bouncing bet, cow-wheat, catch-fly, dianthus, and also on dahlia in the Netherlands. To date it has been found feeding only on bouncing bet (Saponaria officinalis) (Fig. 1), campion (Lychnus alba), and oatgrass (Arrhenatherum elatius) in the U.S.

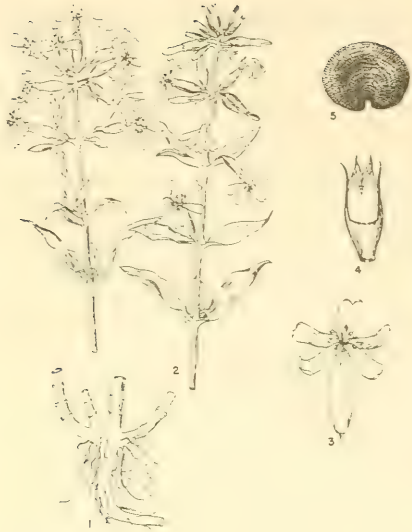

Fig. 1
Bouncing bet (Saponaria officinalis). 1- lower part of plant; 2- flowering stems; 3- flower; 4- mature seed pod with part of calyx removed; 5- seed.

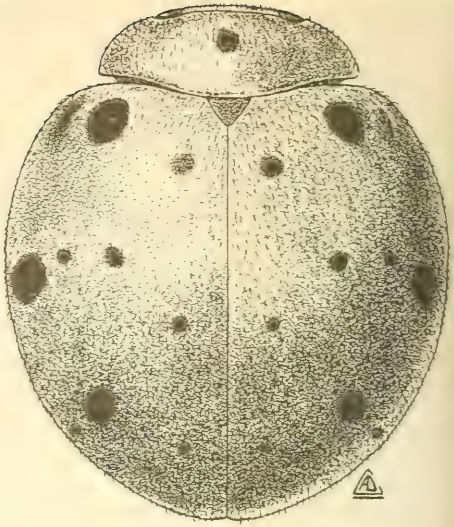

Fig. 2
Adult of S. 24-punctata, dorsal view.

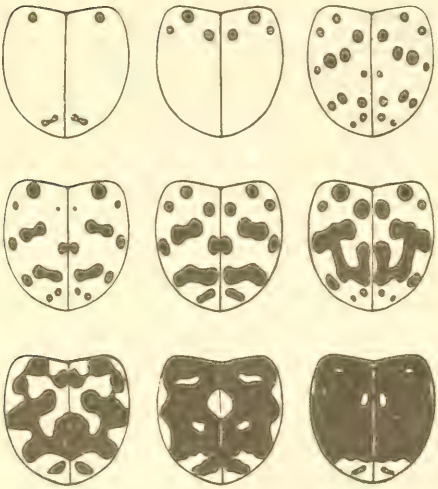

Fig. 3
Pattern variations on elytra of S. 24-punctata.

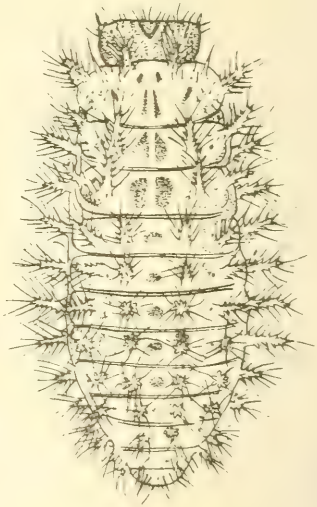

Fig. 4
Fourth-instar larva of S. 24-punctata.

Description: ADULT - Subhemispheric, 3-4 mm. in length, with convex elytra; it is a deep uniform orange-red, including the head, thorax, and underside of body which is quite flat. Normally, the fine velvety dorsal surface has 12 round, black spots on each elytra (Fig. 2), but there can be much variation in number and shape. Occasional individuals will be found with practically no spots, while others will have the elytra almost entirely black (Fig. 3). The head and pronotum have very few spots. Antennae very small; terminal segment larger than other segments, stubby, and very dark. Tibiae squat; tarsi 3-jointed, second joint extends beneath third joint.

LARVA - Fourth instar (Fig. 4) measures about 4.5-5 mm. by 2 mm.; yellowish with some darker spots on the head and tergites; spots are absent in the first instar. Bristles or branches of scoli over the dorsum are shorter than in *Epilachna*, 6 per segment (4 dorsal, 2 lateral) except no more than 4 in first row.

EGG - Yellow, ovoid, about 0.5-0.6 mm. on long axis.

Life History and Habits: Adults are rather clumsy, dropping to the ground when disturbed. However, in sunlight they are very active and are reported to fly. They feed on legumes by chewing large holes in the parenchyma. Adults overwinter under cover in various sites, becoming active in April or early May. Mating and egg laying take place in late May. Eggs are deposited on both sides of leaves, especially the upper surface. The female deposits about 50 yellow, ovoid eggs glued to the leaf surface in an upright position by the large end and close together in rows. After several days incubation the eggs hatch.

The larva quickly attaches to the nearest underlying tissues of the leaf and feeds in a characteristic manner. It cleans out the epidermis and parenchyma layers completely on the side upon which it is feeding, but the epidermis of the opposite side of the leaf is left as a fine transparent membrane. The larva does not tear off and ingest a plant fragment, but merely bites down on it, sucks the juice, and leaves it struck to the leaf. It then pulls back and repeats the process. After having moved backwards about one centimeter, while feeding, the larva turns around and begins again in the opposite direction parallel to the area it has just cleaned out. As it feeds, the larva sets aside all refuse in parallel linear piles on the cleared out zone. In a few hours the parenchyma of one leaflet is cleaned out and transformed into a transparent lacework with about 10 small strips of refuse (Fig. 5). The larva then moves to another leaflet.

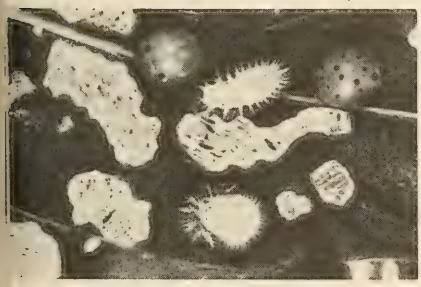

Fig. 5. Adults, larvae, and damage by *S. 24-punctata* on leaf of bouncing bet.

The larva reaches full growth in about 30 days. It attaches itself by its posterior end to the host plant, swells up, and pupates. In 6 to 7 days, the pupal case splits along the dorsal surface and the adult emerges. These second-generation adults continue to feed on the host until the end of summer or early autumn. They seek hibernation sites in late autumn.

Credits

Fig. 1 - Weeds of the North Central States. North Central Regional Publication No. 36, Circular 718 of the University of Illinois Agricultural Experiment Station, p. 59.

Fig. 2 - Drawn by A.D. Cushman from fresh caught specimen.

Fig. 3 - From Balachowsky, A.S. 1962. Entomologie Appliquée a L'Agriculture, Tome I, Coléoptères, fig. 219, p. 351. Masson et Cie Éditeurs, Paris.

Fig. 4 - Ibid, fig. 220, p. 352.

Fig. 5 - From color photo by Ray R. Kriner.

Distribution map prepared in Pest Survey and Technical Support, PPQ, APHIS, USDA.

Description translated from A.S. Balachowsky by Frances Krim, PPQ.

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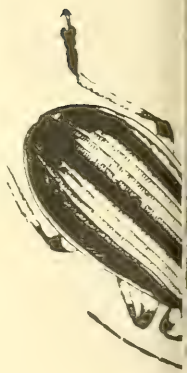

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Cooperative Economic Insect Report

Issued by
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ANIMAL AND PLANT HEALTH INSPECTION SERVICE
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ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 24 September 13, 1974 Number 37

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

CORN EARWORM caused severe damage to soybeans in northern Coastal Plain area of North Carolina, some severe damage reported in southern Virginia, and pest ranged up to heavy on tomatoes and sweet corn on Maryland Eastern Shore. First confirmed record of GREENBUG on sorghum reported in Michigan. POTATO LEAFHOPPER damage potential to alfalfa, beans, and potatoes much reduced in Wisconsin due to below normal temperatures. (pp. 737-738).

BOLL WEEVIL increased in cotton throughout Rolling Plains of Texas, generally heavy in central Tennessee; percent punctured squares still heavy in Mississippi. BOLLWORMS increased in central and Rolling Plains areas of Texas, oviposition very heavy on cotton in Tennessee Valley area of northern Alabama. (pp. 741-742).

POTATO TUBERWORM populations appear heavier on potatoes for time of year than for any comparable period since about 1945 on Virginia Eastern Shore. CABBAGE LOOPER increased rapidly in same area during recent dry period, control difficult. (pp. 742, 743).

Detection

- Single ORIENTAL FRUIT FLY male collected in Clairemont, California. (p. 748).

New State records are two EULOPHID WASPS in Idaho (p. 747) and an OECOPHORID MOTH in West Virginia (p. 745).

For new county records see page 748.

Reports in this issue are for week ending September 6 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING SEPTEMBER 9

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Carmen, the first hurricane to touch the U.S. this year struck the central Louisiana coast early Sunday morning. Gale force winds struck from Cameron, Louisiana, to Pascagoula, Mississippi. Heaviest rainfall associated with Carmen occurred mostly in southern Alabama and western Florida. During the 24-hour period ending 9 a.m. Sunday, Mobile, Alabama, measured nearly 7 inches of rain, while Pensacola and Valparaiso, Florida, reported better than 4 inches. As Carmen moved inland, the storm weakened rapidly and was downgraded to a tropical storm by 2 p.m. Sunday. September's temperatures were off to a cold start east of the Continental Divide. The center of the coldest area included parts of Kansas, Missouri, Oklahoma, and Texas where weekly averages ranged from 12 to 14 degrees below normal. Light frost touched parts of the western Corn Belt Tuesday morning. However, west of the Continental Divide, temperatures were as much as 7 degrees above normal.

PRECIPITATION: Rains measuring 1 inch to over 5 inches covered the Eastern United States last week east of a line from New England to eastern Texas and Oklahoma. Heavy rain fell over the eastern gulf coast early and late in the week. Some weekly totals included New Orleans, Louisana, 2.74 inches; Mobile, Alabama, 8.77 inches; and Apalachicola, Florida, 9.94 inches. Hurricane Carmen also spread heavy rains measuring 2 inches to over 5 inches from southern Louisiana northward through Arkansas and from the southern Alabama Mississippi border northward through Tennessee. Elsewhere, light rains fell in most areas east of the Rocky Mountains. No significant rain fell west of the Continental Divide except for some isolated showers in central Arizona and southwestern Utah. Monday warm and humid air over the gulf and Atlantic coast region collided with cold air causing widespread rain from the Atlantic Weather of the week continued on page 750.

CORN EARWORM (Heliothis zea) - COLORADO - Infestations ranged 0-60 percent in cornfields checked in Arkansas Valley. Damage mostly confined to ear tips. (Schweissing). OKLAHOMA - Counts per 30 row feet in soybeans by county: Wagoner 5-10, Muskogee 1-30, McCurtain 1-25. Light in sorghum heads in Washita, Caddo, and Kiowa Counties. (Okla. Coop. Sur.). ARKANSAS - Averaged less than one per row foot in sorghum in Yell County. Infestations increased in southeast area soybeans. However, only small percent of fields have infestations at recommended treatment level. Reports indicate soybean fields being treated at below recommended treatment levels. (Boyer). MISSISSIPPI - Larvae averaged one per 3 row feet in 100 acres of corn in Noxubee County. Lighter in most other fields checked. Averaged 4 per 3 row feet in 20-acre soybean field in Sharkey County; none found in 4 fields checked in Alcorn County; averaged one per one row foot in 1,000 acres in Issaquena County. (Robinson).

ALABAMA - Corn earworm feeding light on soybean pods in all fields surveyed in Bullock, Russell, Macon, and Elmore Counties. (Henderson et al.). TENNESSEE - Larvae heavy on late corn in western area; 2-3 larvae per ear common in late fields. (Patrick). NORTH CAROLINA - Severely damaged soybeans in many northern Coastal Plain areas. All fields checked in area contained fifth and sixth-instar larvae, averaged 5 per row foot in Franklin and Halifax Counties. About 50 percent of fields in area harbored economic infestations. Populations light in Washington and Hyde Counties. Treatments needed in Chowan County area. Pupation underway and will continue next period. Growers cautioned to be sure larvae at economic levels if treatments applied. Some difficulty with control of H. zea in soybeans noted. Heavy rains made control difficult in some areas. (Hunt, Hardison).

VIRGINIA - Fourth and fifth-instar corn earworm larvae averaged 9, 20, and one per 3 row feet in 3 Greenville County soybean fields. Damage severe with almost complete crop failure in first two fields. This is first report of economic damage in State this year. (Burt). MARYLAND - Ranged moderate to heavy in unsprayed tomatoes and sweet corn on Eastern Shore week ending August 30. Larvae ranged 1-2 per row foot in tomatoes. Populations in soybeans varied widely on Eastern Shore where most fields appeared clean, and larvae ranged 1-3 per 40 row feet in only 900 acres. (U. Md., Ent. Dept.). DELAWARE - Adults ranged 50-80 per night in blacklight trap collections in Sussex County. Infestations in untreated sweet corn heavy but remained light in sweet peppers. (Burbutis).

WISCONSIN - Few early instar corn earworm larvae noted in scattered cornfields near Lake Michigan. Blacklight trap catches continued very light; few if any problems expected next 14 days. (Wis. Ins. Sur.). NEW YORK - Easily found in many cornfields throughout Ulster County. (Straub). MAINE - Very light or absent in sweet corn even when no treatments applied. (Gall).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Infestation in Texas County sorghum disappeared mainly due to parasitism by Lysiphlebus testaceipes (a braconid wasp) and Aphelinus nigritus (a eulophid wasp). Greenbug still light in Washita, Caddo, and Kiowa Counties. (Okla. Coop. Sur.). NEBRASKA - Parasitism by Lysiphlebus testaceipes (a braconid wasp) increased rapidly last 10 days of

August. Parasite activity approached complete control of greenbug week ending August 30 in Lancaster County sorghum fields. Increase about 21 days later than average for past few years. Greenbug below economic levels in eastern area. Current parasite activity reduced greenbug activity in most sorghum to trace levels. (Keith). MICHIGAN - Aphids isolated from grain sorghum plots in Kalamazoo County week of July 28 determined as Schizaphis graminum by R.F. Ruppel. This is first confirmed record of greenbug on sorghum in State. (Webster, Ruppel).

POTATO LEAFHOPPER (Empoasca fabae) - WISCONSIN - Populations much reduced due to below normal temperatures; counts rarely exceeded one per sweep on potatoes and beans. Although weather will moderate, future damage potential much reduced. Also averaged less than one per sweep in all alfalfa and soybeans checked. Damage potential in these crops also much reduced. (Wis. Ins. Sur.). INDIANA - Adults increased over last week in southwest and south-central district alfalfa. Only 3 of 25 fields surveyed near economic levels; these fields maturing. (Meyer).

SPOTTED ALFALFA APHID (Therioaphis maculata) - COLORADO - Increased on alfalfa in Arkansas Valley; counts ranged up to 20,000 per 100 sweeps. (Schweissing).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - Long, cold nights reduced moth catches to near zero in all areas. If seasonal temperatures return, moth counts will probably remain very light until end of sweet corn season. Checks of late sweet corn revealed very little evidence of second-generation infestations. Few first and second instars noted in whorls and silks of late sweet corn in Iowa, Dane, and Columbia Counties. Egg masses very scarce in fields checked. Few of more mature fields of sweet corn and grain corn had large diapausing larvae from first generation in ears, but no serious problems noted. Very unlikely significant infestations will develop except possibly in very late sweet corn, then only if weather warms. (Wis. Ins. Sur.). MAINE - Very light in most corn. Many tassels broken off in several fields due to first generation, about 25 percent of stalks infested by second generation. These are fields where 1973 stalks were infested and not plowed down at Dexter, Penobscot County. (Gall). DELAWARE - Moths ranged 20-50 per night in blacklight trap collections in Sussex County. (Burbutis). TENNESSEE - Damaged corn in some fields in Madison County. (Patrick).

FALL ARMYWORM (Spodoptera frugiperda) - WISCONSIN - About 40 percent of plants in Columbia County sweet corn field infested with first and second instars. Field in early tassel stage; feeding confined to tassels and whorls. Very light, erratic moth catches noted in blacklight traps for several weeks at some sites. (Wis. Ins. Sur.). KENTUCKY - Larvae damaged several cornfields in Shelby County; about 30 percent of plants infested. (Barnett). NEW YORK - Populations heavy in many whorl-stage sweet corn plantings throughout Ulster County during period August 26 to September 2. (Straub).

SORGHUM WEBWORM (Celama sorghiella) - MISSOURI - Larvae ranged 0-70 per 10 heads on mature sorghum in southeast area. (Munson). MISSISSIPPI - Ranged up to 2-3 per head in grain sorghum and silage sorghum in Noxubee County. (Robinson).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - KANSAS - Infestation found in corn in Lane County August 13, 1974. Collected and determined by M.L. Shuman. This is a new county record. (Bell).

CORN ROOTWORMS (Diabrotica spp.) - WISCONSIN - Adult survey completed. D. virgifera (western corn rootworm) comprised 100 percent of populations in several Clark County cornfields; counts much heavier than in previous surveys, but lodging minor in all fields surveyed. Heavy corn rootworm populations and some severe lodging noted in few Washington County fields. Counts of 1-3 per silk noted in several southern and southeastern counties, with most being D. longicornis (northern corn rootworm). Many later fields of sweet corn had Diabrotica spp. counts of 1-5 per silk, with extensive silk clipping on some plants; spraying would probably be beneficial in some fields. Emergence of new adults from soil appears complete at Arlington. Egg laying noted as early as second week of August, had been heavy until recent cold weather. (Wis. Ins. Sur.).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - NORTH DAKOTA - Adult counts in corn ranged as follows by county (averages in parentheses): Dickey 4-68 (20); LaMoure, up to 24 (10); Barnes 4-24 (12). Very few lodged and goosenecked plants evident. About 15 percent of fields surveyed with up to 28 percent of plants goosenecked. (Kaatz). MICHIGAN - Adults found in following new counties: Lapeer August 13, Missaukee August 14, Huron August 25, Sanilac August 18, Tuscola August 25. Collected by S. Jennings, L. Verway, and T. Montei. Determined by R.F. Ruppel. These counties in area where 97 percent of corn grown in State. To date, no specimens noted in St. Clair or Arenac Counties. (Liebherr).

BANKS GRASS MITE (Oligonychus pratensis) - OKLAHOMA - Still heavy in some corn fields in Texas County, but corn in dent stage and producers not treating. (Okla. Coop. Sur.). TEXAS - Moderate in grain sorghum fields in Hale County area. Producers applied controls in some cases. (Latham). NEW MEXICO - Two to three colonies noted per leaf on sorghum near Roswell, Chaves County. (N.M. Coop. Rpt.). COLORADO - Increased on corn in most areas of State due to cooler and sometimes wet weather. (Hantsbarger, Schweissing).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - MONTANA - Infested field corn in Billings area, Yellowstone County. Lower leaves dry in many fields; in some fields leaves dry 3.5 feet up plant. (Pratt).

TURF, PASTURES, RANGELAND

BLUEGRASS BILLBUG (Sphenophorus parvulus) - NEBRASKA - Averaged 14.5 per square foot in Scottsbluff County grass. Percent of population by stage: Larvae 29.2, pupae 3.3, adults 62.5. (Kindler, Nuland).

FALL ARMYWORM (Spodoptera frugiperda) - MISSISSIPPI - Larvae decreased in Harrison County turf past 14 days. Currently between generations. (Wilson). Larvae caused light to moderate damage to temporary grazing and hay crops over State. (Robinson).

A GRASSHOPPER (Conocephalus fasciatus) - MISSISSIPPI - Nymphs and adults very heavy in mixed pastures. Adults and nymphs averaged 200 per 100 sweeps in stand of Dallis grass in Monroe County. (Robinson).

FORAGE LEGUMES

ALFALFA CATERPILLAR (Colias eurytheme) - NEW MEXICO - Larvae ranged 3-7 per 25 sweeps in forage crops near Roswell, Chaves County. Adults active in fields. (N.M. Coop. Rpt.). CALIFORNIA - Larvae very active this season and required much treatment. Haymaking and cubing of alfalfa showed much damage. (Cal. Coop. Rpt.). IDAHO - Adults very numerous and larvae averaged 25 per sweep in alfalfa in Bruneau area of Owyhee County. (Edwards).

ALFALFA WEEVIL (Hypera postica) - NORTH DAKOTA - Some larvae still active in third-cutting alfalfa in McKenzie County. Ranged up to 30 per 100 sweeps in irrigated fields. (Brandvik).

PEA APHID (Acyrthosiphon pisum) - NORTH DAKOTA - Infestation decreased in irrigated McKenzie County alfalfa. Ranged 10-70 (average 33) per 100 sweeps in third-cutting alfalfa. (Brandvik). NEW MEXICO - Up to 100 per 25 sweeps of alfalfa near Roswell area, Chaves County. (N.M. Coop. Rpt.).

GRASSHOPPERS - ILLINOIS - Ranged 0-10 (average 4) per square yard in northeast district red clover and alfalfa. (Ill. Ins. Rpt.). WISCONSIN - Adults of Melanoplus femurrubrum (redlegged grasshopper) increased in alfalfa, but counts light, 3 per 10 sweeps, in most areas; moderate in parts of Trempealeau County, heavier in some roadside grasses. Grasshoppers appear more advanced in central and western districts than in southeastern district where nymphs in third and fourth instars. (Wis. Ins. Sur.).

GUAR MIDGE (Cecidomyia texana) - TEXAS - Populations greatly reduced by heavy rains in parts of Hardeman and Wilbarger Counties. (Boring).

SOYBEANS

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Egg laying continued in all areas on Eastern Shore week ending August 30. About 1,200 acres sprayed in Wicomico and Somerset Counties. Remaining areas on Eastern Shore showed increased damage and population counts, but still below economic thresholds. (U. Md., Ent. Dept.). INDIANA - Caused about 40 percent defoliation in one soybean field each in Martin and Fayette Counties. Larvae expected to be present for at least 21 days. (Edwards). TENNESSEE - Spotted infestations observed in Lincoln County. (Pendergrass).

soybean field each in Martin and Fayette Counties. Larvae expected to be present for at least 21 days. (Edwards). TENNESSEE - Spotted infestations observed in Lincoln County. (Pendergrass). MISSISSIPPI - Light in three fields checked in George County. (McNeil).

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Ranged moderate to heavy in Wagoner and McCurtain Counties, light in Muskogee County. (Okla. Coop. Sur.). MISSISSIPPI - Soybeans susceptible to damage from this pest staying ahead of infestations. Defoliation light to moderate in Alcorn, Yalobusha, Lee, Monroe, and Oktibbeha County soybeans. (Robinson).

SOUTHERN ARMYWORM (Spodoptera eridania) - ALABAMA - Larvae migrated from pigweed to soybeans in some Elmore County fields. Occasional larva noted in several Russell County soybean fields mixed with S. ornithogalli (yellowstriped armyworm) and other larvae. (Henderson et al.).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Ranged 2-3 per 10 sweeps in Muskogee County, 5-12 per 10 sweeps in Wagoner and McCurtain Counties. Much lodging occurred in fields damaged earlier in season. (Okla. Coop. Sur.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Examination of weevils from south-central counties showed diapausing weevils made up 40-65 percent of population in gulf coast and central areas. Increased weevil population present in fields throughout Rolling Plains. Heavy populations reported from irrigated fields in several counties. Weevils caused 10-50 percent square damage in dryland fields in Wichita, Fisher, Hardeman, and Foard Counties. Heavy populations caused 30-80 percent square damage in irrigated and dryland fields in Jones, Hardeman, Baylor, Wilbarger, and Wichita Counties. (Boring). OKLAHOMA - Percent punctured squares by county: Jackson up to 38, Tillman up to 60, Harmon up to 6, Greer up to 24, Kiowa up to 33; moderate to heavy in Garvin and Stephens Counties; ranged 0-15 in Muskogee County, 0-5 in Wagoner County. Averaged 50 percent in Caddo and Washita Counties; 20 weevils taken in 32 pheromone traps in Muskogee County. (Okla. Coop. Sur.). MISSISSIPPI - Percent punctured squares continued heavy in areas of green cotton where weevils problem this season. Average percent punctured squares by county: Prentiss 12, Holmes and Washington one in 432 acres, Monroe 20, Wayne 8, Franklin 6 in 175 acres, Alcorn 16 in 3 fields, Noxubee 20 in 200 acres. (Robinson).

ALABAMA - Boll weevil adults and larvae present in all fields in State. Punctured squares ranged 5-95 percent depending on control efforts. Weevils puncturing top young to half-grown bolls in all areas. (McQueen). TENNESSEE - Squares too scarce to make counts in central area, but weevil populations generally heavy. Punctured squares ranged 18-89 (average 31) percent on 14 fields in western area. Weevil migration continued heavy over area. In few fields, cotton beginning to open and some farmers now applying defoliants. (Locke et al.).

BOLLWORMS (Heliothis spp.) - ARIZONA - Counts light in Safford area of Graham County. In Marana area of Pima County, fields treated earlier for other pests now appear prone to damage by bollworms. (Ariz. Coop. Sur.). TEXAS - H. zea (bollworm) and H. virescens (tobacco budworm) infestations increased in lush, green cotton in central and Rolling Plains areas. Rains of up to 9 inches past 10 days hindered control operations. Producers in central area should expect heavier larval populations as egg laying also increased. Fields in area which have been defoliated showed much lighter larval and egg counts. Heavy H. zea and H. virescens infestations caused 20-30 percent square damage in irrigated fields in Baylor and Wichita Counties. Moderate infestations caused 10-20 percent square damage in Fisher, Hardeman, and Wilbarger Counties. (Cole, Boring).

OKLAHOMA - In Jackson, Tillman, Kiowa, Harmon, and Greer Counties, Heliothis spp. eggs ranged 8-25 and larvae 8-32 per 100 terminals; damaged squares ranged 6-18 percent. Plots in Tipton area of Tillman County ranged 10,000-30,000 eggs per acre (36,000 plants per acre). In Washita and Caddo Counties, counts averaged 30 eggs and 30 larvae per 100 terminals. Larvae per 100 terminals ranged as follows by county: Muskogee 2-18, Wagoner 4-12, and McCurtain 2-15. Moderate in Stephens County. About 70 percent of larvae checked in Wagoner and Muskogee Counties were H. virescens (tobacco budworm). (Okla. Coop. Sur.). MISSISSIPPI - Heliothis spp. oviposition light to moderate in Delta counties, ranged 1-8 percent; continued heavy in many fields in hill counties, eggs on 100 percent of terminals. Larval control generally good over State, with few areas in hill section experiencing some difficulty (Robinson).

ALABAMA - Oviposition by Heliothis spp. moths very heavy in Tennessee Valley area in northern part of State. Eggs ranged 10-100 per 100 stalks in several hundred thousand acres. (Chapman et al.). TENNESSEE - Damaged bolls ranged 0-10 percent in central area. Increased but continued below control levels in western area. Larvae could yet become problem in area. (Cagle et al.). NORTH CAROLINA - Controls for H. zea adequate in cotton-producing area of Coastal Plain even with recent rains. (Hunt).

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) - OKLAHOMA - Continued heavy (up to 100 per 100 plants) in some fields in Washita, Caddo, and Kiowa Counties. (Okla. Coop. Sur.).

POTATOES, TOMATOES, PEPPERS

POTATO TUBERWORM (Phthorimaea operculella) - VIRGINIA - Caused heavy foliage injury to potatoes in Accomack and Northampton Counties where crop not protected with proper insecticides. Populations appear heavier for time of year than for any comparable period since about 1945. Young plants should be protected against terminal damage which alters regular plant growth. (Hofmaster).

TOMATO PINWORM (Keiferia lycopersicella) - NEW MEXICO - Caused problems on greenhouse tomatoes at Espanola, Rio Arriba County. This is first report from northern area, formerly known from Dona Ana, Luna, and Eddy Counties in southern areas. (N.M. Coop. Rpt.).

.RLEQUIN BUG (Murgantia histrionica) - NEW MEXICO - Severely .maged brussels sprouts and broccoli near Albuquerque, ›rnalillo County. (N.M. Coop. Rpt.).

:ANS AND PEAS

:XICAN BEAN BEETLE (Epilachna varivestis) - NEW MEXICO - ›stroyed rows of snap beans in Paradise Hills area, Bernalillo ›unty. Serious in central area but not currently known from ›uthern portions. From 1917 to 1951, considered major bean pest ı Mesilla Valley of Dona Ana County. (N.M. Coop. Rpt.). UTAH -]mage to beans and peas still reported in Cache and Weber ›unties. (Knowlton, Haws).

:NERAL VEGETABLES

.BBAGE LOOPER (Trichoplusia ni) - VIRGINIA - Increased rapidly ›ring recent dry period in Accomack and Northampton Counties; ›ntrol difficult, especially in Painter area. Potatoes, tomatoes, ›cumbers, snap beans, and soybeans most affected. Nuclear ›lyhedrosis virus present and will eventually reduce populations ›t not before serious injury has occurred. (Hofmaster).

:ROPEAN CORN BORER (Ostrinia nubilalis) - MICHIGAN - Population ›crease in southern counties indicates second generation peaked. ›ak egg hatch should be about now. Snap bean growers in Oceana ›d Mason Counties should be alerted that O. nubilalis activity . increase; control programs should be intensified. (Cress).

HAWAII INSECT REPORT

›uits and Ornamentals - Several undetermined larvae reported in :IR 24(36):728 as fitting larval description of a NOCTUID MOTH ›nua indiscriminata) determined this species; adults emerged. ›lult also taken in blacklight trap at Hickam Air Force Base on ›hu. To date, strawberry guava and guava confirmed as hosts. ›hiroma, Mau).

›n and Animals - MOSQUITO collections from 72 light traps ›erated on Oahu during July totaled 657 females of Aedes vexans ›cturnus and 8,355 females of Culex pipiens quinquefasciatus. ›des catches averaged 9 females per trap and Culex catches ›eraged 116 per trap. (Vector Control Br., State Dept. Health). ›all mammal survey conducted at State Animal Quarantine Facility : Halawa, Oahu, to determine if AMERICAN DOG TICK (Dermacentor ›riabilis) established in area (see CEIR 24(33):660). Total of › mice trapped and examined. No D. variabilis found on mice. :keda). Another ground next of a VESPID WASP (Vespula vulgaris) ›scovered at Olinda, Maui, in late August. Nest measured 9 inches : diameter and estimated to contain 3,000 individuals. About 60 ›rcent of colony were males, remainder workers. No queen cells ›und. Likely that other nests can be found in area since many ›raging workers observed away from site where nest discovered. ›iyahira).

CODLING MOTH (Laspeyresia pomonella) - IDAHO - Pheromone trap moth catches at Moscow, Latah County: 33 August 30; 7 August 31; 4 September 1; none September 2; 19 September 3; 3 September 4; and one September 5. (Portman). WASHINGTON - Pheromone trap catches in Pest Management Project of Yakima County for most part in 0-1 weekly catch level week ending August 30, with some at 5-9 rate and few higher. In Grant and Adams County area for week ending August 31 most counts in 0-4 range with 11 traps in 10-34 range. In Chelan and Douglas Counties, catches for week ending August 31 mostly in 0-3 range with none higher than 12. (Eves et al.).

PEARLEAF BLISTER MITE (Phytoptus pyri) - CALIFORNIA - Delicious apple fruit showed damage in Sebastopol area of Sonoma County. Pest has been very prevalent in pears this season, but seldom problem in apples. (Cal. Coop. Rpt.).

PEAR RUST MITE (Epitrimerus pyri) - UTAH - Conspicuous pest for past 3 years in northern area pear orchards. More severe this season at Providence and North Logan, Cache County, but somewhat less severe in Weber and Utah County orchards compared to 1973 infestations. (Davis).

PEARSLUG (Caliroa cerasi) - UTAH - Less severe in cherry orchards in Utah, Salt Lake, Weber, Davis, and Box Elder Counties than during 1973. (Davis, Knowlton).

FALL WEBWORM (Hyphantria cunea) - MISSISSIPPI - Second generation appeared on pecans, persimmon, and oaks; counts increasing. (Robinson). TENNESSEE - Damaged pecan foliage in western area and walnut in central area. (Patrick, Locke).

PECAN WEEVIL (Curculio caryae) - MISSISSIPPI - Few weevils collected in traps in Hinds and Lowndes Counties. Populations increased but currently below normal. (Neel). TEXAS - Homeowners and commercial pecan producers continued to apply controls in Baylor, Wichita, and Young Counties. (Boring). OKLAHOMA - Adult emergence peaked August 25-31 in Love County; only light numbers emerged this period. Emergence also light in Payne County. Infestations light on pecans checked in Caddo, Washita, and Kiowa Counties. (Okla. Coop. Sur.).

WALNUT HUSK FLY (Rhagoletis completa) - OREGON - Infestations in English walnuts in Dundee area of Yamhill County increased from low of one per 9 traps August 12 to 119 per 9 traps September 2. No adults taken after treatments applied September 3. No larvae found in walnuts to date. (Larson). UTAH - Infested English walnuts at North Ogden, Weber County. (Knowlton).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - TEXAS - Completely defoliated pecan trees in commercial orchard in Maverick County. (Stewart).

FOREST AND SHADE TREES

SEQUOIA PITCH MOTH (Vespamima sequoiae) - OREGON - Many reports of larval damage to dooryard and highway plantings of ponderosa and coast pine in western area. (Capizzi).

ARBORVITAE LEAFMINER (Argyresthia thuiella) - MICHIGAN - Caused severe browning and defoliation to large areas of cedar in Grand Traverse and Benzie Counties. Immature larvae overwinter in mines and recent mild winters possibly contributed to outbreak. These areas will be closely watched in 1975 for possible mortality. Control possible on ornamentals but not feasible under forest conditions. (Mosher).

REDHEADED PINE SAWFLY (Neodiprion lecontei) - WEST VIRGINIA - Completely defoliated 90 percent of trees in one-acre Christmas tree plantation in Braxton County. (Cole).

CALTALPA SPHINX (Ceratomia catalpae) - WEST VIRGINIA - Larvae collected on walnut in Ritchie County August 29, 1974, by A.E. Cole. Determined by A.E. Cole. This is a new county record. (Cole).

AN OECOPHORID MOTH (Psilocorsis obsoletella) - WEST VIRGINIA - Larvae caused light damage to oaks in Clay and Raleigh Counties August 29, 1974. Collected by J. Fulk. Determined by A.E. Cole. This is a new State record. (Cole).

LARGER ELM LEAF BEETLE (Monocesta coryli) - WEST VIRGINIA - Larvae caused 50-75 percent defoliation to all elms in Nebo and Big Otter areas of Clay County. Collected August 29, 1974, by J. Fulk. Determined by A.E. Cole. This is a new county record. (Hacker). Caused 90 percent defoliation to small sawtimber size trees generally throughout Braxton County by September 3. (Cole).

ELM LEAF BEETLE (Pyrrhalta luteola) - NEVADA - Second brood moderate to heavy on elms, caused severe defoliation. Overwintering adults appeared at Reno and Sparks, Washoe County. (Lauderdale).

A SAWFLY (Trichiosoma triangulum) - WEST VIRGINIA - Larvae found on black cherry in association with a spanworm in Pocahontas County. Collected August 28, 1974, by P. Van Buskirk. Determined by A.E. Cole. This is a new county record. (Cole).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 89 cases reported from continental U.S. during period August 4-10 as follows: Texas 85, New Mexico 2, Arizona 2. Total of 239 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 179,136,600 as follows: Texas 158,382,600; New Mexico 6,885,000; Arizona 13,509,000; Arkansas 360,000. Total of 38,787,000 sterile flies released in Mexico. (Anim. Health).

HORN FLY (Haematobia irritans) - MISSISSIPPI - Light, averaged less than 100 per animal on beef and dairy breeds in Oktibbeha, Lowndes, and Monroe Counties. (Robinson). TENNESSEE - Counts per head of cattle by county: Unicoi 25-60, Cocke 0-20. (Walker). WISCONSIN - Light on dairy herds. Ranged 5-25 per side on some herds in central counties. (Wis. Ins. Sur.). KANSAS - Averaged 12 per head on range cattle in Anderson County. (Bell). OKLAHOMA - Averaged 850 per head on cows and 3,000 per head on bulls in Payn County. Ranged 150-500 per head in Wagoner and Muskogee Counties. Heavy in Craig and Garvin Counties. (Okla. Coop. Sur.). TEXAS - Activity increased on cattle in Archer County. Populations expected to increase as temperatures become cooler in Rolling Plains area. (Boring).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Current cool weather reduced adults on pastured cattle. None found on windy days. However, when temperatures increased above 70 degrees, adults again active with up to 50-70 per head found. (Robinson). TENNESSEE - Counts per head on cattle by county: Unicoi 0-20, Cocke 0-5. (Walker). KENTUCKY - Single adults collected near cattle in Mercer County July 3 and in Nelson County July 11, 1974 by D.E. Barnett. Determined by D.E. Barnett, confirmed by F. Knapp. These are new county records. (Barnett). OKLAHOMA - Heavy on Craig County cattle. (Okla. Coop. Sur.). WASHINGTON - Ranged 10-15 per animal on riding ponies August 31 at Pullman, Whitman County. (Telford).

STABLE FLY (Stomoxys calcitrans) - MARYLAND - Populations in Bay area resorts in Calvert, St. Marys, and Anne Arundel Counties became increasingly annoying to boaters and swimmers week ending August 30. (U. Md., Ent. Dept.). WISCONSIN - Currently light to moderate on livestock in all areas as far north as Bayfield County. Current cool weather should result in definite decline in populations. (Wis. Ins. Sur.). OKLAHOMA - Increased on dairy cattle in Payne County; averaged 5 per head. (Okla. Coop. Sur.).

MOSQUITOES - ALABAMA - Very heavy populations developed statewide Heavier populations expected following recent heavy rains statewide. (Stephenson). OHIO - General population increase noted statewide due to recent heavy rainfall. Of 1,748 adults taken in 15 light traps (average 116 per trap) August 26 in Richland County, predominant species included Aedes vexans, A. trivittatus A. triseriatus, Culex pipiens and Anopheles punctipennis. (Ohio Dept. Health).

A BIBIONID FLY (Plecia nearctica) - ALABAMA - Heavy, annoying, and dangerous to motorists along many roads throughout Houston County. (Stephenson).

SHEEP BOT FLY (Oestrus ovis) - OKLAHOMA - Heavy in flock of 2,000 sheep in Oklahoma County. (Okla. Coop. Sur.).

GULF COAST TICK (Amblyomma maculatum) - TEXAS - Increased on livestock throughout gulf coast and south-central counties. Specimens collected as far north as Fayette County. (Cole).

MISCELLANEOUS WILD PLANTS

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - WEST VIRGINIA - Two adults collected on bouncing bet near Van Clevesville, Berkeley County, August 27, 1974. Collected and determined by J.D. Hacker. This is a new county record. (Hacker).

BENEFICIAL INSECTS

LADY BEETLES - MAINE - Coccinella transversoguttata and Hippodamia tredecimpunctata very heavy in most field corn in Dexter and East Cornith areas, Penobscot County. Heavy aphid populations had been present in these fields but were reduced by braconid wasps, syrphid flies, and disease. Two larvae and pupae of C. transversoguttata and H. tredecimpunctata found on each stalk near end of fields checked. Many newly emerged adults also found. This constitutes heaviest lady beetle population of either or both species observed in past 9 years. (Gall). OHIO - Adults, larvae, and pupae of H. convergens (convergent lady beetle) ranged 2-11 per 2.5 to 4.5-foot tall tobacco plants in Highland County. Adults comprised about 65 percent of population. Heavy population of H. convergens probably developed due to heavy aphid infestation. (Fox, Horn).

A PUNCTUREVINE SEED WEEVIL (Microlarinus lareynii) - OKLAHOMA - Collected from puncturevine 6 miles north of Waterloo, Logan County, August 15, 1974. Collected and determined by D.C. Arnold. This is a new county record. (Okla. Coop. Sur.).

EULOPHID WASPS - IDAHO - Specimens of Chrysocharis laricinellae and Achrysocharella silvia emerged from foliage of western larch (Larix occidentalis) infested with Coleophora laricella (larch casebearer). Larch foliage collected from location near Hope, Bonner County, about June 28, 1972, and June 9, 1973, by W.E. Bousfield. Single specimen of C. laricinellae emerged from this material in 1972 and additional specimens emerged in 1973. A. silvia emerged from material collected in 1973. Determinations by B.D. Burks. These are new State records for C. laricinellae and A. silvia. (PPQ).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - NEBRASKA - Average counts ranged 2-3 per square yard in rangeland surveyed in Sheridan, Dawes, and Sioux Counties. Most prevalent species in order of abundance: Ageneotettix deorum, Melanoplus sanguinipes, and Phlibostroma quadrimaculata. (Hagen). MONTANA - Grasshoppers present in field margins of early seeded winter wheat in Broadwater and Jefferson Counties. (Pratt). UTAH - Adults ranged 3-12 per square yard in areas where some green plant growth present at East Canyon, Cache County, and 1-5 (sporadically) per square yard in mountains southwest of Mantua, Box Elder County. Some adult damage to ripening tomatoes noted in Magna and Sandy areas of Salt Lake County. (Knowlton).

JAPANESE BEETLE (Popillia japonica) - MARYLAND - Larval populations throughout State week ending August 30 well below average for past 3 years. Exceptionally dry July weather may have caused heavy larval mortality. (U. Md., Ent. Dept.).

PINK BOLLWORM (Pectinophora gossypiella) - NEW MEXICO - Damaged bolls in southern Dona Ana County cotton ranged 0-12 per 100 bolls examined. (N.M. Coop. Rpt.).

DETECTION

ORIENTAL FRUIT FLY (Dacus dorsalis) - CALIFORNIA - Single male fly taken in McPhail trap in orange tree at Clairemont, San Diego County, September 6, 1974. Delimiting survey underway. Details to be carried in next issue of CEIR. (PPQ).

New State Records - EULOPHID WASPS - Chrysocharis laricinellae, Achrysocharella silvia - IDAHO - Banner County. (p. 747). AN OECOPHORID MOTH (Psilocorsis obsoletella) - WEST VIRGINIA - Clay and Raleigh Counties. (p. 745).

New County Records - CATALPA SPHINX (Ceratomia catalpa) WEST VIRGINIA - Ritchie (p. 745). FACE FLY (Musca autumnalis) KENTUCKY - Mercer, Nelson (p. 746). LARGER ELM LEAF BEETLE (Monocesta coryli) WEST VIRGINIA - Clay (p. 745). NORTHERN CORN ROOTWORM (Diabrotica longicornis) WEST VIRGINIA - Berkeley (p. 747). A PUNCTUREVINE SEED WEEVIL (Microlarinus lareynii) OKLAHOMA - Logan (p. 747). A SAWFLY (Trichiosoma triangulum) WEST VIRGINIA - Pocahontas (p. 745). WESTERN BEAN CUTWORM (Loxagrotis albicosta) KANSAS - Lane (p. 739). WESTERN CORN ROOTWORM (Diabrotica virgifera) MICHIGAN - Lapeer, Missaukee, Huron, Sanilac, Tuscola (p. 739).

CORRECTIONS

CEIR 24(35):689 - CORN EARWORM (Heliothis zea) - Third paragraph: SOUTH CAROLINA should read NORTH CAROLINA.

CEIR 24(35):692, 704 (Detection) - WESTERN CORN ROOTWORM (Diabrotica virgifera) - MI HIGAN - Notice of Montcalm County as a new county record is in error. D. virgifera found near Amble, Montcalm County, September 1, 1973. (Liebherr).

CEIR 24(35):695 - PEANUTS - TWOSPOTTED SPIDER MITE (Tetranychus urticae) - Line 3: SOUTH CAROLINA should read NORTH CAROLINA.

CEIR 24(35):701 - FALL WEBWORM (Hyphantria cunea) - Line 4: SOUTH CAROLINA should read NORTH CAROLINA.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
FLORIDA																								
Gainesville 8/30-9/5			BL							3										5	2	5	1	
ILLINOIS (County)																								
Ogle 8/27-9/2			BL	7						2							8	5	43					
KANSAS																								
Great Bend 9/1-3			BL	1		3				4									10		1			
Tribune 8/29-30			BL			23				7								1	6		2			
KENTUCKY																								
Lexington 9/4-5			BL	1												2			5			15		
MICHIGAN (Counties)																								
Lenawee 8/26-9/3			BL	43													50	45	62				43	
Oceana 8/26-9/3			2BL	77													107	81	135				49	
MISSISSIPPI																								
Stoneville 8/30-9/5	49-84	5.11	2BL	6	5			35	43	135									27	122	42	119	1704	
NEW MEXICO																								
Las Cruces 9/2-6			BL		7					24					17									
OHIO																								
Wooster 8/31-9/6			3BL	10											1		10	35	47		55	2		
OREGON (Counties)																								
Linn 8/29-9/4			BL	21														27						
Marion 8/29-9/4			3BL	13														53						
TENNESSEE (Counties)																								
Hardeman 9/2-6			BL	8						23					3				3			27	1	
Weakley 9/2-6			BL		2					5														
WISCONSIN																								
Cedar Grove 8/27-9/2			BL														8		2					
Hancock 8/29-9/4			2BL														5	1						

Weather of the week continued from page 736.
coast to the central and southern Plains. During the afternoon, persistent rains produced flooding in southern Missouri, eastern Kansas, and eastern Oklahoma. A cold front that brought chilling temperatures to much of the Nation east of the Rockies triggered showers and thunderstorms in the Atlantic Coast States on Tuesday. Wednesday, an invasion of cold air over the Nation's midsection kept showers confined to the Atlantic coast. Slow moving, heavy thundershowers crossed the Athens and Savannah, Georgia, area on Thursday, leaving some streets 2 feet under water. Friday, rain and thundershowers occurred from the eastern gulf northward through the Atlantic Coast States into the upper Ohio Valley and southern New England. Saturday morning, Hurricane Carmen was located 220 miles south of New Orleans and moving northward toward the southeast Louisiana and Mississippi coasts. The hurricane triggered heavy rain along the gulf coast later in the day. Sunday, Hurricane Carmen slammed into the central gulf coast accompanied by gale winds, rains, and tornadoes.

TEMPERATURE: Chilling fall-like temperatures blanketed the eastern two-thirds of the Nation last week. Only the Far West reported temperatures near normal or above. Bakersfield, California, and Phoenix, Arizona, both reported temperatures averaging 7 degrees above normal. Temperatures in the Nation's midsection averaged as much as 14 degrees below normal with corn and soybean areas averaging 8 to 12 degrees below normal. Monday, an unseasonably cool air mass covered the Nation from the northern Atlantic coast to the northern and central Rockies. New record lows were set at Kansas City, Missouri, 50 degrees; St. Joseph, Missouri, 48 degrees; Bismarck, North Dakota, 34 degrees; Casper, Wyoming, 35 degrees; and Rapid City, South Dakota, 38 degrees. A High pressure center over Nebraska spread cool air as far south as southern Texas during the predawn hours Tuesday morning. Record morning lows were set in the Plains, upper and middle Mississippi Valley, and upper Great Lakes region. Wednesday, cold air again covered most of the Nation east of the Rockies. Some record morning low temperatures included Omaha, Nebraska, 40 degrees; Topeka, Kansas, 39 degrees; Kansas City, Missouri, 44 degrees; Corpus Christi, Texas, 62 degrees; and Burlington, Iowa, 39 degrees. An early September record cold spell broke minimum temperature records on Thursday from the Gulf of Mexico to the Great Lakes. Friday, temperatures were generally below normal over the eastern half of the Nation with many spots in the 60's and 70's during the day. Saturday, cool morning temperatures prevailed across much of the Nation. Readings fell into the 50's from the North Atlantic Coast States into Oklahoma to the west coast and dropped to the 40's in the Rockies and northern Plains. Sunday afternoon temperatures were mostly in the 70's in the eastern half of the Nation and the 80's and 90's in the West.

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Cooperative Economic Insect Report

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ANIMAL AND PLANT HEALTH INSPECTION SERVICE
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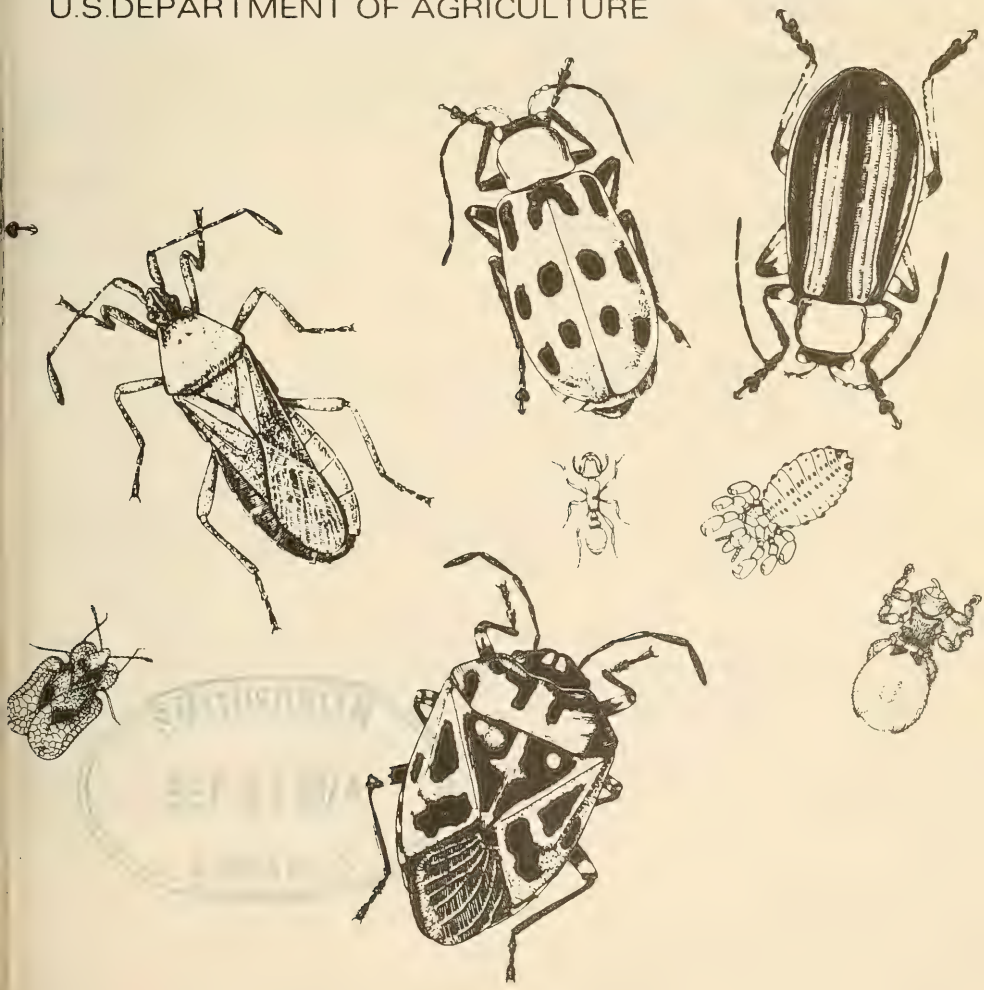

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Hyattsville, Maryland 20782

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

CORN EARWORM larvae heavy in soybeans across South Carolina, but a larval disease is widespread and exerting some control; damaging populations decreased in North Carolina. (p. 753).

VELVETBEAN CATERPILLAR increasing on soybeans in Savannah Valley and MEXICAN BEAN BEETLE heavy on early soybeans across South Carolina. (p. 755).

BOLLWORMS continued to increase on cotton in western Tennessee and continued at heaviest levels ever known across Alabama. BOLL WEEVIL damage to small cotton bolls heavy in western Tennessee, weevils heavy in Mississippi. (pp. 756, 757).

ORIENTAL FRUIT FLY infestation at Clairemont, California, involves about 10 square miles but area is residential and recreational, not commercial fruit-growing area. Additional flies have been captured. (p. 761).

Detection

- Single ORIENTAL FRUIT FLY male collected in Panorama City, California. (p. 761).

For new county records see page 761.

NOTE: Reprints of Illustrated Key to the Identification of Lepidopterous Larvae Attacking Tomatoes in Mexico and the United States, Excluding Alaska by George T. Okumura are available upon request without charge from Laboratory Services/Entomology, California Department of Food and Agriculture, 1220 N Street, Sacramento, California 95814.

Reports in this issue are for week ending September 13 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING SEPTEMBER 16

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Cold air following the passage of a slow moving front, surged into the U.S. from Canada at midweek spreading cooler than normal temperatures across a wide section of the Central States and the West. Scattered morning frost was reported in many North Central States on Thursday and Friday before the cold air gradually drifted to the southeast. Rain fell in the Midwest throughout the week along the leading edge of the cool air mass which moved slowly southeastward. Significant precipitation occurred from Texas north through Minnesota and east through New England.

PRECIPITATION: The remnants of Hurricane Carmen finally diminished over south-central Oklahoma late Tuesday. Carmen, a relatively dry hurricane, produced heavy precipitation over east Texas: Victoria 5.50 inches, Houston 4.29 inches. Further west a complex Low pressure system triggered occasional showers in Arizona and New Mexico, and some light rain in the Pacific Northwest. Considerable rain fell across the Midwest on several days as the cold front moved slowly eastward. From 1 to 2 inches fell across the central Corn Belt, with 0.50 to 1 inch in the eastern and western Corn Belt. Elsewhere, considerable thunderstorm activity caused spotty precipitation in Florida: Lakeland reported 3.23 inches, Jacksonville 6.72 inches. Early Monday, Hurricane Carmen, now a tropical storm, caused widespread rain and a few thunderstorms from its center in southeastern Texas through the lower Mississippi Valley to northwestern Florida and the Ohio River. Showers and thundershowers, with some locally heavy rains, hit portions of eastern Texas, Oklahoma, Arkansas, and Louisiana on Tuesday. Idabel, Oklahoma, received over 4 inches of rain in 4 hours. Wednesday, unseasonably cold air triggered one inch of snow at Lander, Wyoming, and snow was also reported near Lewiston, Montana. Weather of the week continued on page 764.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - SOUTH CAROLINA - Larvae of this species and Spodoptera frugiperda (fall armyworm) reported on grasses in Newberry and Darlington Counties. (Thomas).

CORN EARWORM (Heliothis zea) - OKLAHOMA - Ranged light to moderate in soybeans in Wagoner, Muskogee, and McCurtain Counties. Light in soybeans in Garvin County and in peanuts in Caddo, Washita and Marshall Counties. (Okla. Coop. Sur.). ARKANSAS - Infestations decreased in southeast area soybeans; very few fields treated. (Boyer). ALABAMA - Very light in 40 soybean fields surveyed in Marshall, Tuscaloosa, Greene, Madison, and Hale Counties. Controls begun in Conecuh County on several thousand acres of soybeans where this pest and other foliage feeders present. (Wood et al.). SOUTH CAROLINA - Heavy larval infestation caused heavy damage to 160 acres of grain sorghum in Lexington County. (Jones). Larvae heavy in soybean fields across State. Larval disease widespread in all fields and providing some control and increasing. (Thomas).

NORTH CAROLINA - Surveys for corn earworm in Sampson, Duplin, Wayne, and Nash Counties indicated decrease in number of soybean fields with damaging populations. Pupation occurred in all areas of Coastal Plain. Number of open canopy fields sampled at threshold level decreased to about 10 percent compared to 50 percent previous period. (Hunt). VIRGINIA - Sample of 28 soybean fields (666.5 acres) in Isle of Wight County showed average of 1.8 larvae per 30 row feet. None of fields yet reached numbers normally required for treatment. In Westmoreland County (30 fields, 670 acres), larvae per 30 row feet averaged 2.2. None of 58 fields surveyed required treatment. (Allen).

MAINE - To date, no corn earworm larvae reported in corn ears in central area. (Gall). MICHIGAN - No adult activity noted in light traps. This is very unusual and growers should be very watchful because there may be pockets of activity not detected by traps. (Liebherr). WASHINGTON - Infestation 70 percent on experimental corn trials (late plantings) near Othello, Adams County. (Antonelli).

POTATO LEAFHOPPER (Empoasca fabae) - MICHIGAN - Heavy in some alfalfa fields. Pest will be present until first heavy frost and can damage alfalfa if warm weather continues. Growers planning to cut hay within next 7 days should check fields and treat if necessary. (Ruppel).

CORN, SORGHUM, SUGARCANE

CORN ROOTWORMS (Diabrotica spp.) - MICHIGAN - Adults, especially D. virgifera (western corn rootworm) still feeding in corn. Many migrated to other plants. D. virgifera definitely increased in northern counties where D. longicornis (northern corn rootworm) no problem in past. This could be most serious effect of appearance of pest in State. Growers with fields of continuous corn urged to check for adults. This is about last chance of season. (Ruppel). INDIANA - D. virgifera adult collected on corn in Steuben County September 7, 1974, by J.M. Thieme. Determined by T. Turpin. This is a new county record. Pest now recorded in all counties of 3 northern districts. (Turpin).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - OKLAHOMA - Stalk infestations ranged 6-90 percent in cornfields checked in Texas County. (Okla. Coop. Sur.). ALABAMA - Light in two Marshall County cornfields, with one stalk per 30 row feet girdled and fallen. First observed girdled stalks of season. Larvae at tap roots still in summer form. (Wood et al.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - MAINE - All corn checked one to four percent infested. Heavy infestation, about 25 percent, noted in one field near Dexter, Penobscot County. (Gall).

FALL ARMYWORM (Spodoptera frugiperda) - MISSISSIPPI - Full-grown larvae infested 25 percent of sorghum plants in 80 acres grown for silage in Oktibbeha County. Larval damage evident on preboot sorghum grown for hay in Clay County. Generation completed larval stage and pupated. (Robinson).

FIRE ANT (Solenopsis geminata) - SOUTH CAROLINA - Collected from Chesterfield County cornfield by J.T. Squires September 14, 1974. Determined by V.H. Owens. This is a new county record. (McCaskill).

BANKS GRASS MITE (Oligonychus pratensis) - NEW MEXICO - Counts remained at 1-2 colonies per sorghum plant in Roosevelt and Lea Counties. Lateness of season and weather may prevent heavy damage in these areas, though late crops still should be watched. (N.M. Coop. Rpt.).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - NEBRASKA - Still present but economic importance decreasing as most corn nears hard dent stage. Treatment advised on one late-planted cornfield west of Elgin, Antelope County. Average of 3 leaves per plant killed and colonies present above ear. (Koinzan).

SMALL GRAINS

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Heavy, localized infestations found in volunteer wheat in Jackson County. (Okla. Coop. Sur.).

WHEAT STEM SAWFLY (Cephus cinctus) - NORTH DAKOTA - Cutting prevalent in roadside bromegrass in Williams County; up to 10 percent cut stems in some areas. (Brandvik).

TURF, PASTURES, RANGELAND

A SOD WEBWORM (Crambus trisectus) - MARYLAND - Larvae heavily damaged 15 acres of bluegrass sod near Olney, Montgomery County, averaged 5 per square foot. (U. Md., Ent. Dept.). MICHIGAN - Adult flights numerous in central area, particularly in lush grass. No controls suggested this year. Sod should be assessed for damage in spring 1975 and appropriate action taken if necessary. (Liebherr).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - NEW MEXICO - Ranged up to 12 larvae per 25 sweeps in Valencia County alfalfa. (N.M. Coop. Rpt.). MISSOURI - Adults light to moderate on alfalfa. Counts per 10 sweeps ranged 2-16 in central area and 0-41 in west-central area. (Munson).

EUROPEAN ALFALFA BEETLE (Subcoccinella vigintiquatuorpunctata) - WEST VIRGINIA - Twenty adults collected on bouncing bet near railroad yard at Grafton, Taylor County, September 10, 1974. Collected by J.D. Hacker, S.A. Moore, and A.E. Tustin. Determined by J.D. Hacker. This is a new county record. (Hacker).

ALFALFA CATERPILLAR (Colias eurytheme) - NEW MEXICO - Up to 170 larvae per 25 sweeps recovered from alfalfa in southern Valencia County. (N.M. Coop. Rpt.).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - NEW MEXICO - Ranged 13-27 per 25 sweeps in alfalfa near Los Lunas, Valencia County. (N.M. Coop. Rpt.).

SOYBEANS

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Damage heavy in Garvin County; ranged moderate to heavy in Wagoner, Muskogee, and McCurtain Counties. (Okla. Coop. Sur.). MISSISSIPPI - Ranged light to heavy in soybeans in Monroe, Clay, and Oktibbeha Counties. No economic damage noted. (Robinson).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Larvae damaged large field in Marengo County; controls applied. Heavily damaged another field in county. Larvae ranged 10-20 per 3 row feet in 500-acre field in Gallin Community; field treated September 9. (Yates). SOUTH CAROLINA - Light to moderate populations present on soybeans in Savannah Valley area of State; populations increasing. (Thomas).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - SOUTH CAROLINA - Collected from soybeans in Marlboro County by R.C. Smith August 28, 1974. Determined by C.A. Thomas. This is a new county record. (McCaskill).

MEXICAN BEAN BEETLE (Epilachna varivestis) - SOUTH CAROLINA - Heavy infestations present statewide on early planted soybeans. Infestations still light on late planted beans. (Thomas). TENNESSEE - Caused heavy damage in about 10 percent of fields surveyed in Franklin County. Defoliation heavy. Soybeans not fully matured; damage will occur if controls not applied. (Cagle). VIRGINIA - Sample of 30 fields in Westmoreland County (670 acres) showed average of 33.2 beetles per 30 row feet. Defoliation averaged 6 percent. In Isle of Wight County, 28-field project (666.5 acres) averaged 48.08 beetles per 30 row feet. Average defoliation 13.8 percent. This was much of an increase from last period stressing need for weekly surveys. Three economic infestations (11 percent of all fields) encountered in Isle of Wight County and 2 economic infestations (13 percent of all fields) detected in Westmoreland County. (Allen).

BEAN LEAF BEETLE (Cerotoma trifurcata) - ALABAMA - Adults damaged several Green County fields; controls applied to one 40-acre field. Much adult feeding on pods observed in many Marengo County fields; younger fields may be damaged by heavy infestation in county. (Henderson et al.).

GREEN STINK BUG (Acrosternum hilare) - VIRGINIA - One of 28 fields sampled in Isle of Wight County exceeded recommended treatment threshold; none economic in Westmoreland. (Allen). SOUTH CAROLINA - Populations of this species and Nezara viridula (southern green stink bug) heavy on soybeans statewide. About one-fifth of soybean acreage in State noted with economic infestations. (Thomas).

PEANUTS

REDNECKED PEANUTWORM (Stegasta bosqueella) - OKLAHOMA - Terminal infestations averaged 37 percent in Marshall County. This unusually light for September. (Okla. Coop. Sur.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - OKLAHOMA - Adults taken in light trap in Marshall County; larvae should appear on peanuts soon. (Okla. Coop. Sur.).

COTTON

BOLLWORMS (Heliothis spp.) - TENNESSEE - Continued to increase in many late fields in western area, but below control levels in most cases. (Locke, Patrick). Heavy in many central area fields. Damaged bolls ranged up to 20 percent in many Franklin and Lincoln County fields. (Cagle). GEORGIA - Average larval counts per 100 sweeps ranged 2-3 and 27 percent of fields above economic threshold in Dooly, Colquitt, and Terrell Counties. Larval damage increased as squares became less available. (Boone). ALABAMA - Infestation continued statewide at heaviest level ever known; controls difficult. Moth flights in northern and central areas equally H. zea (bollworm) and H. virescens (tobacco budworm). Heliothis spp. and Spodoptera exigua (beet armyworm) larvae heavy in large fields where control applications poor or stopped during latest rainy period. (Yates et al.).

MISSISSIPPI - In Bolivar County cotton test area, Heliothis spp. eggs averaged 25,887 per acre and larvae 2,287 per acre in 30-acre scheduled insecticide plot; in 30-acre plot where no insecticides applied, eggs averaged 114 per acre and larvae averaged 5,147 per acre. Percent larval damaged squares in treated area 5.57 and 8.40 in untreated area. Percent damaged bolls in treated plot 1.97 and 3.90 in untreated plot. Total boll counts in treated plots 315,000 per acre and 362,000 per acre in untreated plots. (Andrews). OKLAHOMA - In Jackson, Tillman, Harmon, Greer, and Kiowa Counties, eggs ranged 5-25 and larvae 3-38 per 100 terminals; damaged squares ranged 4-18 percent. Counts in area heaviest in Jackson County. In Wagoner and Muskogee Counties, eggs ranged 0-10 and larvae 0-15 per 100 terminals. H. virescens (tobacco budworm) very heavy in Washita and Caddo Counties. (Okla. Coop. Sur.). NEW MEXICO - Damage by H. zea larvae still light, with 0-8 bolls per 100 affected in Don Ana County. Damage up to 50 percent noted in fields near Lovington, Lea County. (N.M. Coop. Rpt.).

BEET ARMYWORM (Spodoptera exigua) - OKLAHOMA - Larvae moderate an caused some square damage in Jackson and Greer Counties. (Okla. Coop. Sur.).

BOLL WEEVIL (Anthonomus grandis) - TENNESSEE - Punctured squares ranged 18-83 (average 28) percent in 29 fields of late cotton in western area. Damage heavy to small bolls over area. Squares in older cotton too scarce for counts. Weevil migration still heavy over area. Cotton maturing rapidly, some bolls opening. (Locke, Patrick). GEORGIA - Average percent punctured squares by county: Colquitt 13, Dooly 7, Terrell 7. Sixteen percent of fields above economic threshold, decline from previous period. (Boone). ALABAMA - Continuous "hatch-out" statewide and reduced number of squares resulted in heavy punctured square counts of 10-100 percent in most fields. Feeding and egg laying punctures observed on young and older bolls. Damaged bolls caused excessive boll rot in most fields. (McQueen).

MISSISSIPPI - Boll weevil punctured squares still heavy in infested areas of State. Most concern now is effect adults will have on small bolls. (Robinson). OKLAHOMA - Percent punctured square counts by county; Tillman ranged up to 29, Jackson up to 22, Kiowa up to 19, Greer up to 12, Caddo and Washita up to 50. Averaged 8 percent in Wagoner County, 18 percent in Muskogee County. (Okla. Coop. Sur.).

POTATOES, TOMATOES, PEPPERS

GREEN PEACH APHID (Myzus persicae) - IDAHO - Found in all potato fields inspected in Grindstone Butte area, Owyhee County, and Bel Rapids area, Twin Falls County. All leaves inspected in some fields with aphids. Three-hundred winged aphids per trap found during early September. (Walz). DELAWARE - Heavy on some peppers in western Sussex County. (Burbutis).

BEANS AND PEAS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - SOUTH CAROLINA - Collected from peas in Laurens County September 2, 1974, by T. Reeves. Determined by C.A. Thomas. This is a new county record. (McCaskill).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - COLORADO - Pheromone trap catches indicate very few moths flying in Western Slope orchards. (Bulla). IDAHO - Pheromone trap catches in Moscow area, Latah County: 3 moths September 6; 4 moths September 7; 2 moths September 8; 2 moths September 9; none September 10, 11, 12, and 13. (Portman). WASHINGTON - Pheromone trap catches in Grant and Adams County area, week ending September 7, ranged 0-24. Counts lighter than previous week. New larval entries noted on winter apples September 8 at Pullman, Whitman County. (Hunter, Telford).

PEACHTREE BORER (Sanninoidea exitiosa) - GEORGIA - Adults increased in peach-growing areas; ranged 10-12 male moths per pheromone trap per day. (Gentry).

TWIG GIRDLER (Oncideres cingulata) - OKLAHOMA - First activity of season reported on pecan trees in Cherokee County. (Okla. Coop. Sur.).

PECAN WEEVIL (Curculio caryae) - GEORGIA - Detection indicated adult populations apparently peaked in Peach County; averaged 40 per tree in sticky-band traps. (Payne). MISSISSIPPI - Emergence continued to increase in Hinds, Lowndes, Quitman, and Wilkinson Counties. Pecan nut puncturing increased. (Neel).

WALNUT HUSK FLY (Rhagoletis completa) - OREGON - Larvae active in unsprayed English walnuts in Dundee area, Yamhill County. First damage noted September 4. In treated orchards, second application made September 3; no economic adult populations found in bait traps since. Average adult counts per trap per day before spraying 37; averaged 2.4 adults per trap per day after spraying. (Larson).

BLACK PECAN APHID (Tinocallis caryaefoliae) - GEORGIA - Damage increased on untreated pecan trees in Peach and Dougherty Counties. (Payne, Gentry).

PECAN SPITTLEBUG (Clastoptera achatina) - MISSISSIPPI - Extremely heavy on local trees in Quitman County. (Mitchell).

FOREST AND SHADE TREES

BALSAM WOOLLY APHID (Adelges piceae) - OREGON - Collected on subalpine fir (Abies lasiocarpa) at head of Tiger Creek in Umatilla National Forest, Umatilla County, May 8, 1974, by T. Gregg. Determined by R. Mitchell. This is a new county record and significant extension of range as this aphid only previously known from west side of Cascade Range in State. Survey underway to determine extent of infestation in Blue Mountains. (Gregg).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - WEST VIRGINIA - Adults collected on pin oak in Greenbrier County near White Sulphur Springs September 10, 1974, by G.W. Gibson. Determined by A.R. Miller. Adults collected on white oak at Wheeling, Ohio County, September 12, 1974. Collected and determined by J.D. Hacker. These are new county records. (Hacker).

COTTONWOOD LEAF BEETLE (Chrysomela scripta) - NEW MEXICO - Light to heavy activity noted on Populus spp. and Salix spp. near Los Lunas, Valencia County, and Albuquerque, Bernalillo County. One row of cottonwoods in Albuquerque area severely damaged. All stages of insect currently active. (N.M. Coop. Rpt.).

FALL WEBWORM (Hyphantria cunea) - MISSOURI - Nearly full-grown larvae ranged light to moderate throughout central and southern areas. Webs observed on persimmon, wild plum, walnut, pecan, and many other trees. (Munson).

ARBORVITAE LEAFMINER (Argyresthia thuiella) - MICHIGAN - Severe damage to cedar and arborvitae noted in many northern counties. Trees brown and foliage dropped as result of larval leafmining. Valuable specimens may be protected in 1975 with chemical spray. Little can be done to limit populations under forested situations. (Liebherr).

VARIABLE OAKLEAF CATERPILLAR (Heterocampa manteo) - MICHIGAN - Larval development delayed about 14 days due to unseasonably cool weather. Parasitism averaged 74 percent, will greatly reduce population. (Liebherr).

ORANGESTRIPED OAKWORM (Anisota senatoria) - MARYLAND - Heavy outbreak noted on various oak species planted along highways and U.S. Interstate Highway 70-S in Montgomery County. Many trees completely defoliated. (U. Md., Ent. Dept.).

WALKINGSTICK (Diapheromera femorata) - OKLAHOMA - Light numbers taken from blackjack oak 7 miles north of Sallisaw, Sequoyah County, September 11, 1974. Collected and determined by D.C. Arnold. This is a new county record. (Okla. Coop. Sur.).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 153 cases reported from continental U.S. during period August 25-31 as follows: Texas 142, New Mexico 4, Arizona 6, Oklahoma 1. Total of 409 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 158,074,200 as follows: Texas 141,489,000 New Mexico 5,722,200; Arizona 10,773,000; California 90,000. Total of 40,888,800 sterile flies released in Mexico. (Anim. Health).

HORN FLY (Haematobia irritans) - TENNESSEE - Ranged 0-25 per head of cattle checked in Henderson County. (Turpen). OKLAHOMA - Averaged 300 per head on Payne County cattle. Heavy in Comanche County, light in Canadian and Mayes Counties. Ranged 50-500 per head in Wagoner County. (Okla. Coop. Sur.).

FACE FLY (Musca autumnalis) - OKLAHOMA - Collected from fresh cow manure at Collinsville, Tulsa County, August 21, 1974, by D.C. Arnold. Determined by D.C. Arnold and J.A. Hair. This is a new county record. (Okla. Coop. Sur.). MISSISSIPPI - Populations increased again after recent cool weather in Monroe County, one herd averaged 6 per face. One beef cattle herd averaged 18 per face in Chickasaw County. (Robinson). TENNESSEE - None found on cattle checked in Henderson County. (Turpin).

KENTUCKY - Face fly adults taken near cattle in Shelby and Frankli Counties July 17, 1974. Collected and determined by D.E. Barnett. Confirmed by F. Knapp. These are new county records. Adults averaged 26.6 per animal in Woodford County and 7.9 per animal at one Fayette County location. (Barnett).

A BIBIONID FLY (Plecia nearctica) - GEORGIA - Populations heavy along highways in southeast area; annoying and hazardous to motorists. (Barry).

A LOUSE FLY (Hippobosca longipennis) - CALIFORNIA - Intensive survey in cheetah preserve of San Pasqual Wild Animal Park, San Diego County, revealed heavy adult population on all animals. Pupal deposits located, pupae collected. Pupae placed in rearing cages July 30; single adult emerged August 19. Six additional flie emerged August 25. These 6 flies retained in rearing cages without food and water; still active 13 days later. As pupae collected in wild, date of deposition not known. (Cal. Coop. Rpt.).

MOSQUITOES - OHIO - Dry summer prevented large population buildup and probably effected low encephalitis incidence. Recent rainfall resulted in increased Aedes triseriatus populations. Two minature light traps operated in Toledo vicinity of Lucas County September collected 473 mosquitoes including Aedes vexans, Anopheles walkeri Culex spp., Coquillettidia perturbans, Culex erraticus, A. triseriatus, and A. punctipennis. In Mansfield, Richland County, 18 light traps and 3 bite collections netted 631 specimens; Culex spp., A. trivittatus, A. vexans, A. triseriatus, A. canadensis, A. cinereus, and Orthopodomyia signifera. (Ohio Dept. Health). MINNESOTA - Eggs collected September 10, 1974, in Metropolitan Mosquito Control District revealed 70 percent diapause. This percentage present in Aedes vexans and A. triseriatus eggs. Light trap collections decreased significantly with 219 females taken in total of 98 trap nights. (Minn. Pest Rpt.).

STORED PRODUCTS

POTATO TUBERWORM (Phthorimaea operculella) - MARYLAND - Population and damage well above normal in Prince Georges, Charles, Anne Arundel, St. Marys, and Calvert Counties. Most infestations occurre in home or farm storage. Several hundred bushels damaged throughout area. (U. Md., Ent. Dept.).

BENEFICIAL INSECTS

LADY BEETLES - MAINE - Coccinella transversoguttata (transverse lady beetle), Hippodamia convergens (convergent lady beetle), Hippodamia tredecimpunctata (thirteenspotted lady beetle), and Coccinella trifasciata heavy in central area cornfields where aphids previously heavy. Adults most abundant, larvae and pupae still numerous. Some H. parenthesis noted. Lady beetle populations and number of species still heavier than in past 9 years. (Gall).

A DILARID (Nallachius americanus) - KENTUCKY - Adult male collecte in blacklight trap near Anton, Hopkins County, July 25, 1974, by D.E. Barnett. Determined by Christina Sperka. This is a new county record. Larvae of this neuropteron are predaceous. (Barnett).

A SCOLIID WASP (Scolia dubia) - MARYLAND - Adults active in several areas of Prince Georges and Charles Counties over past 21 days. Heaviest counts ranged 50-250 per acre. Activity appears above normal this season. (U. Md., Ent. Dept.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

ORIENTAL FRUIT FLY (Dacus dorsalis) - CALIFORNIA - Single male fly taken in McPhail trap in orange tree at Clairemont, San Diego County, September 6, 1974, originally reported in CEIR 24(37):748, collected by K. Jones and determined by T. Seeno. Of 6 flies taken September 10 in Steiner trap hung in pepper tree, one confirmed as D. orientalis; 5 not yet determined. Additional flies collected September 12 not yet confirmed: 2 flies in McPhail trap, one in Steiner trap in sapote tree, and 2 in pepper tree. Present area of involvement about 10 square miles. Area is residential and recreational, not commercial fruit-growing area. (Cal. Coop. Rpt.). Single male fly taken in Steiner trap in orange tree in residential area of Panorama City, Los Angeles County, September 17, 1974, by Miller. Determined by R. McCrea. This area about 100 miles from collections at Clairemont. (PPQ).

PINK BOLLWORM (Pectinophora gossypiella) - NEW MEXICO - Averaged 6 per 100 cotton bolls from Las Cruces south in Dona Ana County. (N.M. Coop. Rpt.). OKLAHOMA - Single larva found in cotton boll in Payne County. (Okla. Coop. Sur.).

DETECTION

New County Records - ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) WEST VIRGINIA - Greenbrier, Ohio (p. 758). BALSAM WOOLLY APHID (Adelges piceae) OREGON - Umatilla (p. 758). A DILARID (Nallachius americanus) KENTUCKY - Hopkins (p. 760). EUROPEAN ALFALFA BEETLE (Subcoccinella vigintiquatuorpunctata) WEST VIRGINIA - Taylor (p. 755). FACE FLY (Musca autumnalis) KENTUCKY - Shelby, Franklin (p. 760). OKLAHOMA - Tulsa (p. 759). FIRE ANT (Solenopsis geminata) SOUTH CAROLINA - Chesterfield (p. 754). LESSER CORNSTALK BORER (Elasmopalpus lignosellus) SOUTH CAROLINA - Laurens (p. 757), Marlboro (p. 755). WALKINGSTICK (Diapheromera femorata) OKLAHOMA - Sequoyah (p. 759). WESTERN CORN ROOTWORM (Diabrotica virgifera) INDIANA - Steuben (p. 753).

CORRECTIONS

CEIR 24(35):711 - Under Eriosoma americanum and Macrosiphum euphorbiae, Montpilier should read Montpelier.

General Vegetables - TOMATO PINWORM (Keiferia lycopersicella) and damage heavy in 2 acres of tomatoes at Mountain View and Hilo, Hawaii Island. Damage resulted in 30-40 percent fruit damage. Damage decreased appreciably in 80 acres of potatoes at Kohala; intensive spray program begun after heavy damage first observed in August (see CEIR 24(33):660). (Yoshioka).

General Pests - Two more adults of a SPHINGID MOTH (Theretra nessus) collected on Oahu at Campbell Industrial Park and at Manoa. No larvae yet collected. (Howarth, Mau). See CEIR 24(35): 699 for collection of first moth. (PPQ).

Fruits and Ornamentals - BANANA SKIPPER (Erionota thrax) larvae severely damaged about 8 acres of banana at Waiahole, Oahu; all trees infested or showed damage, all leaves on each tree damaged. Estimated 85 percent of total leaf area destroyed, many trees with only leaf midribs. Adults active, too numerous to count. Eggs so numerous, 500+ collected in short time. Damage moderate to heavy on adjacent 6-acre planting. Most trees damaged, but only 40-50 percent of leaves infested or showed damage. Estimated 30 percent of leaf area destroyed. Damage light in 2-acre planting closeby. Only 50-60 percent of trees infested; estimated 20 percent of all leaves showed damage and 10 percent of total leaf area destroyed. (Murai et al.). Several larvae of a NOCTUID MOTH (Anua indiscriminata) collected from guava trees (Psidium guajava) at Manoa, Oahu. Larvae found near branch tips and associated with damaged young leaves. Light damage observed on guava throughout valley, indicating pest may be well established on Oahu. Larvae have now been reported from Salt Lake, Kohala, and Manoa. (Mau).

Forest and Shade Trees - Infestation of an ADELGID (Pineus pini) found for first time in 200 acres of pine at Kemole, Hawaii Island. Stone pine (Pinus pinaster) particularly infested. Infestation at Kemole about 5 miles from original discovery site at Waikii. (Yoshioka).

Beneficial Insects - Releases of a GALL FLY (Procecidochares sp.) continued on Hawaii and Oahu Islands. About 9,000+ flies released since April 1974 (see CEIR 24(18):306 and 24(28):527). Galls observed on Hamakua pamakani at Kona and Volcano on Hawaii Island and at Nuuanu, Oahu. Indications to date are that Procecidochares sp. will be a major control agent of Hamakua pamakani (Ageratina riparia) in State. (Mau).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (salt marsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege sticticalis (garden webworm)	Loxostege rantalis (beet webworm)	Mamestra quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
FLORIDA																								
Gainesville 9/6-12			BL					1		2						1			2	1	7	3	2	
ILLINOIS (County)																								
Ogle 9/3-9			BL	11						19							57	1	29				5	
KENTUCKY																								
Lexington 9/10-12			BL						1							1			5			3		
MICHIGAN (Counties)																								
Lenawee 9/4-9			BL	17													16	20	28				22	
Oceana 9/4-9			2BL	18													33	30	43				34	
MISSISSIPPI																								
Stoneville 9/6-12	59-89	0.39	2BL	6	6			18	10	56									9	55	22	26	1293	
NEW HAMPSHIRE																								
Lee 9/9			BL											1			2		3		3			
NEW MEXICO																								
Las Cruces 9/9-13			4BL		3					37					44	17								
OHIO																								
Wooster 9/7-9			BL	65						3							18	53	28		92	3	3	
OREGON (Counties)																								
Linn 9/5-11			BL	19														61						
Marion 9/5-11			2BL	5														32						
PENNSYLVANIA (Districts)																								
Central 9/3-10			BL	4						1								8	4		3	17		
South East 9/3-10			BL	1														12	6					
TENNESSEE (Counties)																								
Lake 9/9-11			BL	7						18					4				1			3	4	
Madison 9/9-11			BL	20						16					2				7			7	13	

Weather of the week continued from page 752.

Showers and thundershowers occurred along a cold front from the Texas Panhandle to northern Lake Huron. Over 2 inches of rain were reported at Omaha, Nebraska, in little over 3 hours. Sections of northwestern Missouri got nearly 4 inches of rain. Friday, a cold front stretching from south-central Texas into Michigan produced heavy rains in southern Texas and the lower Mississippi Valley. College Station, Texas, reported 3.78 inches of rain in only 6 hours. Thundershowers were scattered over much of Florida, the southern Rockies, and the central and southern Plateaus on Saturday. Locally heavy thunderstorms soaked extreme southern Nevada. Sunday, light to moderate rain fell in west Texas, southeast New Mexico, eastern Kansas, central Missouri, and the northern Great Lakes.

TEMPERATURE: Below normal temperatures covered a wide portion of the central U.S. last week. Elsewhere readings were near normal or above. Cold air from Canada caused temperatures in the Nation's heartland to average as much as 8 degrees below normal. Average temperatures for the week plummeted well below normal as far south as Texas and from the Mississippi River west through the Plains States into the north-central Rockies. Temperatures averaged as much as 8 degrees below normal at Abilene, Texas, and Casper, Wyoming, while most of the Corn Belt States remained near normal to 3 degrees below. Meanwhile, a southerly air flow ahead of a front kept average temperatures in the East normal or above during the week. However, temperatures cooled markedly over the weekend as the cold front moved over the Atlantic. Monday, temperatures were warm in the West. Record highs for the day were set at Casper, Wyoming, 88 degrees, and Phoenix, Arizona, 110 degrees. Record highs were set Tuesday in several Colorado cities: Pueblo 97 degrees, Denver 93 degrees, and Colorado springs 90 degrees. Wednesday, cold air flowing southward from Canada dropped temperatures to just above freezing. Cut Bank, Montana, reported a low of 33 degrees. During the afternoon, colder air from behind the storm front pushed south into the central Plains and Rockies holding midday temperatures in the 40's and 50's. The weather system spread unseasonably cold air south from the upper Rockies, Plains, and Mississippi Valley into the Texas Panhandle on Thursday. Evanston, Wyoming, reported a freezing 20 degrees and Dalhart, Texas, plummeted to 49 degrees. Friday, a High pressure system centered in Canada swept cold air into northern and central portions of the Nation. Record lows were set in Nebraska at Grand Island 34 degrees, Omaha 35 degrees, North Platte 26 degrees, and St. Joseph, Missouri, 39 degrees. Saturday morning, a cold air mass was centered in the middle Mississippi Valley. Many stations reported temperatures in the 30's and 40's. New lows were recorded in Iowa, Kansas, Nebraska, and Missouri. Sunday, temperatures were much warmer across the Nation. Generally, afternoon readings were in the 60's or higher.

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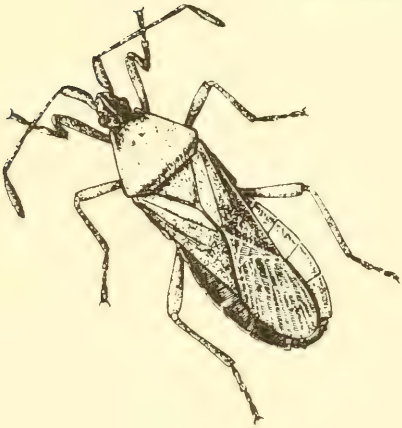

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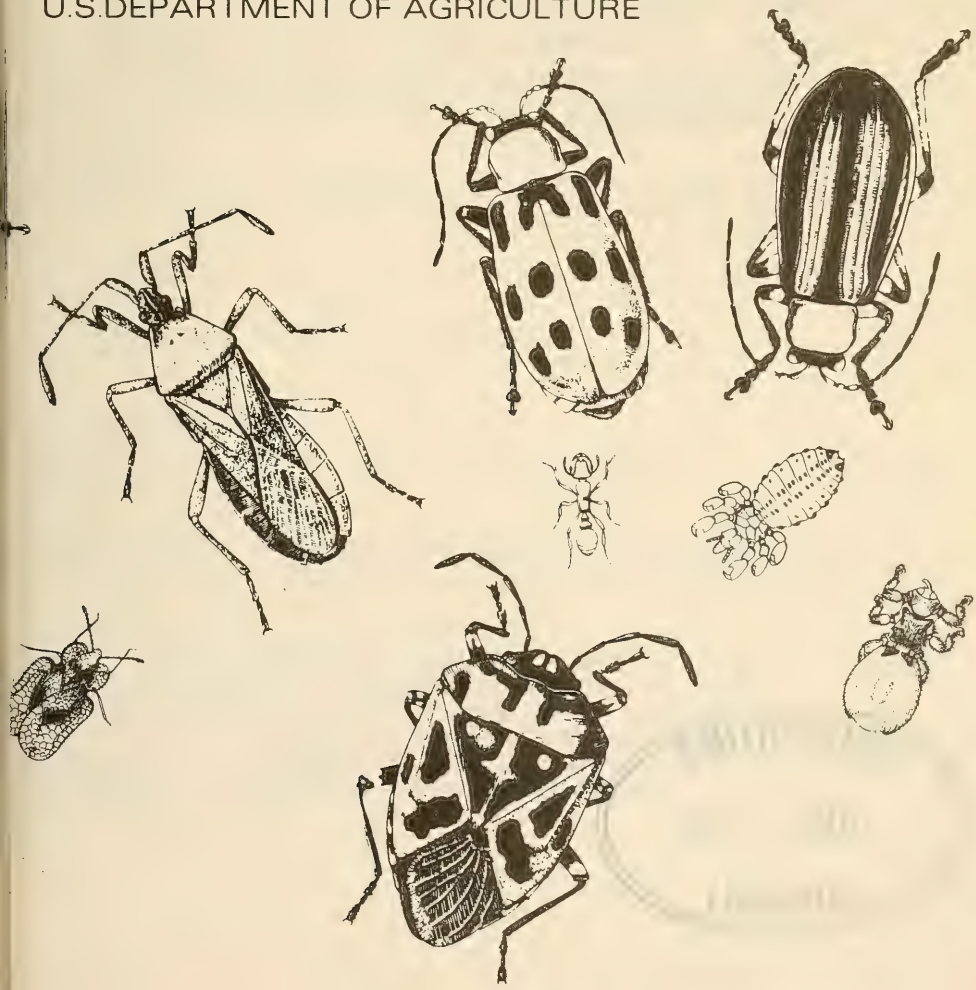

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Hyattsville, Maryland 20782

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

Heavy SOD WEBWORM moth flights in southwestern North Dakota, throughout South Dakota, and over northern half of Nebraska indicate major and widespread damage potential for pastures, rangelands, and lawns in 1975. (p. 769).

CALIFORNIA RED SCALE heavy on citrus in Sacramento area of California. (p. 773).

SOUTHERN PINE BEETLE continued to expand in North Carolina. BLACK PINELEAF SCALE epidemic on pines in northern California. (p. 773).

Predictions

Heavy PALE WESTERN CUTWORM moth flights in western Kansas may indicate heavy infestations in wheat in area in spring 1975. (p. 769).

Current adult CORN ROOTWORM activity in eastern South Dakota increases damage potential on first-year corn in 1975. (p. 771).

Detection

For new county records see page 776.

Special Reports

Additional Aphids Collected in the Los Angeles State and County Arboretum (Homoptera: Aphididae). (pp. 778-779).

Reports in this issue are for week ending September 20 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING SEPTEMBER 23

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Cool, dry Canadian air swept across the North Central U.S. last week bringing frost to the northern areas. Late in the week, cool air moved into New England displacing warm, moist air and producing heavy rain. Simultaneously, warm, moist air from the Gulf of Mexico moved steadily westward into Texas. Combined with high level Pacific moisture from low over Baja California, heavy rains fell across Texas and New Mexico. Only light precipitation fell in Arizona through the week. Abilene, Texas, recorded 9.43 inches and El Paso got 5 inches. Temperatures were cooler than usual across the Nation last week except in the Far West. Both the Great Lakes area and central New Mexico reported temperatures averaging 9 degrees below normal. California's interior recorded temperatures 8 degrees above normal while many sections of Oregon and Washington rose 9 degrees above normal.

PRECIPITATION: Heavy precipitation in Texas, New Mexico, Oklahoma, and Arkansas last week averaged 2 inches to over 9 inches. Rains triggered widespread flooding in many areas, particularly in western Texas. Major rivers overflowing included Middle and North Concho, Pecos, and Rio Grande. Scattered light precipitation fell across many sections of the Nation. Isolated heavy showers were reported in New England, North Carolina, and Florida. The Far West reported little or no precipitation for the week. Early Monday, a few thunderstorms were locally heavy in parts of southwest and west-central Texas. Streets were flooded and creeks overflowed within a 28-mile radius of Abilene. Early morning rains averaging 4 inches or more caused floods in central Texas on Tuesday. During the afternoon a tornado roared through Flint, Michigan, lifting roofs from homes and damaging a shopping center and 20 cars. Wednesday, scattered showers dampened much of the Atlantic coast, lower Great Lakes, and the Northeast. Some flooding occurred in the San Angelo, Texas, area in the morning. Weather of the week continued on page 780.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

GREENBUG (Schizaphis graminum) - SOUTH DAKOTA - No activity noted on emerging wheat seedlings in Winner area, Tripp County. No live greenbugs noted in Presho area, Lyman County. Pest reported infesting new winter wheat in Wood area of Mellette County and Pierre area of Hughes County. Activity light to date. With present weather conditions and with greenbugs blowing into State combining with those found on volunteer grain, infestations expected for next two months. Growers should carefully watch winter wheat fields for activity and damage. (Kantack).

ARMYWORM (Pseudaletia unipuncta) - VIRGINIA - Large larvae completely destroyed 15 acres of hay in Dinwiddie County by September 13. (Allen).

CORN EARWORM (Heliothis zea) - OREGON - Adults light in central Willamette Valley light trap September 12-18. Single specimens taken at Keizer, Marion County, September 12-15, and at Dever, September 16-18. (Penrose). IDAHO - Peaked on silking corn August 16 at Parma, Canyon County; infestation 100 percent with 190 larvae per 100 ears. This compares with 247, 287, and 250 larvae per 100 ears for 1971, 1972, and 1973, respectively. Infestations for this 4-year period peaked within period of 200 growing degree days. Peak infestations for these 4 years occurred on silking corn August 16, August 6, August 4, and August 16, respectively. (Scott). In Twin Falls County sweet corn, no larvae found in 654 ears checked August 8-10, 1974; 2 larvae found in 783 ears checked August 22-23; 18 found in 876 ears checked August 22. Heaviest infestation this season, 5 percent in silked corn August 22. (Carpenter).

UTAH - Corn earworm larvae unusually light in Weber County corn; well below normal in Cache, Box Elder, and Weber Counties. None noted in corn at Salt Lake City, Salt Lake County, home gardens. Larvae infested 5 percent of tomato fruits in home garden at Salt Lake City. (Knowlton et al.). OKLAHOMA - Averaged one per 2 row feet in 3 fields of soybeans checked in Muskogee County; light to moderate in Wagoner and McCurtain Counties. Averaged 5 per 10 heads in grain sorghum in Jackson and Greer Counties but reported light in sorghum heads in Caddo and Washita Counties. Ranged up to 60 percent of ears infested in corn checked in Texas County in fields where ears nearly dry enough to harvest. Light in peanuts in Caddo and Washita Counties. (Okla. Coop. Sur.).

MISSISSIPPI - Corn earworm light in all soybean fields examined in Oktibbeha, Clay, Monroe, and Lee Counties. (Robinson). ALABAMA - Larvae as "podworms" still generally light in all one million acres of soybeans in State. (Henderson et al.). TENNESSEE - Surveys in Haywood, Madison, and Hardeman Counties indicate no larval buildup has occurred in soybeans to date. No damage observed. (Patrick). WISCONSIN - Moth catches in blacklight traps heavy at few sites until night of September 12 when counts decreased to near zero. (Wis. Ins. Sur.). NEW HAMPSHIRE - Infestations practically nonexistant in corn in most of State. Not detected until late August, then only in Dover Point area, Strafford County. (Bowman).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - SOUTH DAKOTA - Light to moderate infestations noted in several east-central counties. Amount of corn being cut for silage should reduce populations. (Kantack). WISCONSIN - Moths heavy in blacklight traps at few sites until night of September 12 when catches decreased to near zero. (Wis. Ins. Sur.). NEW HAMPSHIRE - First brood only threat encountered on sweet corn crop. Second brood remained light. (Bowman). MAINE - Infestations evident in corn. Pest more evident past few years where corn followed corn. In fields planted to corn for first time, infestation ranged 1-2 percent; averaged about 10 percent in other fields. Heaviest infestation of 25+ percent found this season in field of corn following corn and where stalks remained after cutting for silage until late spring 1974. (Gall).

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Infested 25 percent of heads of grain sorghum checked in Jackson County. (Okla. Coop. Sur.). NEW HAMPSHIRE - Late-season damage to late-corn planting detected in Dover, Strafford County. (Bowman).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - IDAHO - Damaged ears, outer flags of ears, and stalks of sweet corn in scattered spots in Twin Falls County. Five larvae found in 876 ears of sweet corn checked September 12 and 13. (Carpenter).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - UTAH - Moderate damage noted in some Weber County cornfields. Most corn cropland treated before planting in spring. (Sjoblom). INDIANA - Adults collected from corn in following counties: Adams, Preble Township near junction of county roads 500W and 750N August 28, 1974, by T.W. Stiles; Montgomery, near junction of county road 700E and northern county boundary near Kirkpatrick September 4, 1974, by J.M. Thieme; Parke, one mile north of Marshall September 5, 1974, by J.M. Thieme; Boone, near junction of county road 725N and State road 39, north of Mechanicsburg September 4, 1974, by J.M. Thieme; Jay, in Penn Township near junction of county roads 100 and 25 August 28, 1974, by T.R. Peck. Determinations by F.T. Turpin. These are new county records. (Meyer).

CORN ROOTWORMS (Diabrotica spp.) - WISCONSIN - Still numerous in few late-maturing, unfrosted cornfields as far north as Dunn County. Beetles often buried deep in ear tips feeding on tender silks and milky kernels. At midday beetles common on ground, presumably still laying some eggs. (Wis. Ins. Sur.).

CHINCH BUG (Blissus leucopterus leucopterus) - KANSAS - Adults and nymphs averaged 20-30 per stalk on maturing corn in field in east-central Marshall County. Most behind leaf sheaths on lower third of plants. (Bell).

SORGHUM MIDGE (Contarinia sorghicola) - OKLAHOMA - Average of 40 percent damage found in field of grain sorghum in Jackson County. (Okla. Coop. Sur.). MISSISSIPPI - Noneconomic on 75 acres of silage sorghum in Oktibbeha County. (Robinson).

SMALL GRAINS

PALE WESTERN CUTWORM (Agrotis orthogonia) - KANSAS - Heavy moth catches recently taken in blacklight trap at Tribune Experiment Station, Greeley County. Total of 1,750 moths trapped night of September 16. Similar population trapped during same period in 1967 at Garden City Experiment Station, Finney County, and heavy infestations experienced in wheat in area in spring of 1968. (Bell).

BEET ARMYWORM (Spodoptera exigua) - OKLAHOMA - Light to moderate in young wheat in Jackson and Greer Counties. (Okla. Coop. Sur.).

FALL ARMYWORM (Spodoptera frugiperda) - MISSOURI - Larvae light in wheat in southeast area; ranged 0-4 per foot of drill row. (Munson).

TURF, PASTURES, RANGELAND

SOD WEBWORMS (Crambus spp.) - NORTH DAKOTA - Heavy moth flights observed in Sioux, Stark, and Golden Valley Counties. (Brandvik, Carlson). SOUTH DAKOTA - Moth activity very heavy since last week of August and first week of September throughout State. Large numbers of moths noted in towns as well as on pasture or rangeland. Heavy flights observed in Yankton, Brookings, Meade, Lawrence, Pennington, and Hughes Counties. Several species have spordically caused serious injury to lawns and golf courses. No reports made of widespread damage to range and pastures until 1974. Localized damage observed in several "West River" counties during May and June 1974. Moths were collected in light traps beginning first week in June. Activity continued light during July and early August and then populations "exploded." Periodic surveys during summer indicated less than one larva per square foot; it was believed population was declining in heavily infested areas of Dewey and Ziebach Counties. Moth populations observed to date indicate major and widespread damage potential for pasture, rangeland, and lawns in 1975. (Kantack). NEBRASKA - Heavy moth flights continue over entire northern half of State. (Koinzan, Keith).

FALL ARMYWORM (Spodoptera frugiperda) - ALABAMA - Larvae damaged several fields of Coastal Bermuda grass in Mobile County. (Vickery). MISSISSIPPI - Larvae decreased on hybrid Sudan grass grown for hay in Clay, Oktibbeha, and Monroe Counties. (Robinson).

NORTHERN MOLE CRICKET (Gryllotalpa hexadactyla) - NORTH CAROLINA - Heavy infestation and extensive damage occurred to 4 hybrid Bermuda grass greens at golf course at Raleigh, Wake County. Riges made by this insect cause rough greens plus "scalped" places when greens mowed. (Robertson).

GRASSHOPPERS - KENTUCKY - Adults and nymphs of various species averaged 40 per 100 sweeps in Bourbon County in roadside grasses, mostly fescue. (Barnett).

FORAGE LEGUMES

ALFALFA CATERPILLAR (Colias eurytheme) - KANSAS - Larvae ranged 7-12 per 10 sweeps in alfalfa in Haskell County and 0-4 per 10 sweeps in Finney County. (Bell). NEW MEXICO - Larvae ranged 8-10 per 25 sweeps in forage crops, with up to 35 per 25 sweeps noted in one field in Eddy County. (N.M. Coop. Rpt.).

BEET ARMYWORM (Spodoptera exigua) - OKLAHOMA - Heavy in alfalfa and weeds in and around fields in Jackson and Greer Counties. (Okla. Coop. Sur.).

ALFALFA WEEVIL (Hypera postica) - KANSAS - Larvae averaged 3 and adults one per 10 sweeps in 20-inch alfalfa in Haskell County. No larvae taken in other fields swept in Haskell, Finney, Gray, Sherman, and Decatur Counties. No adults taken in Finney, Gray, Sherman, and Decatur Counties except trace count in one Finney County field. (Bell). NEBRASKA - Adult activity light in alfalfa in Otoe County. In 11 fields sampled, 100 sweeps per field showed adults averaged 1.3 per field. (Stevens, Manglitz).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - NEW MEXICO - Ranged up to 250 per 25 sweeps in Virden Valley, Grant County, forage crops; some girdling noted. (N.M. Coop. Rpt.). OKLAHOMA - Moderate to heavy in alfalfa in Muskogee County. (Okla. Coop. Sur.). MISSOURI - Light in alfalfa throughout southeast area; ranged 0-14 per 100 sweeps. (Munson).

PEA APHID (Acyrthosiphon pisum) - KANSAS - Averaged from trace to 10 per 10 sweeps in alfalfa in Finney, Gray, Haskell, and Decatur Counties. (Bell). UTAH - Ranged 3-75 per 10 sweeps in alfalfa at Richmond, Cache County. (Knowlton).

MEADOW SPITTLEBUG (Philaenus spumarius) - ILLINOIS - Populations light and noneconomic in all counties surveyed. Only 4 of 29 counties averaged over one per sweep; none averaged over 2. All districts averaged less than one per sweep. Heaviest populations found in northeast district with average of 8.7 per 10 sweeps. (Ill. Ins. Rpt.).

SOYBEANS

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Moderate to heavy in soybeans in Garvin County; light to moderate in Wagoner, Muskogee, and McCurtain Counties. (Okla. Coop, Sur.). MISSISSIPPI - Larvae ranged 0.5-3 per row foot in soybeans in Clay, Monroe, and Chickasaw Counties. (Robinson). KENTUCKY - Larvae very light in western area. (Barnett, Raney).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Foliage feeding by increased larval populations occurred in southern area and northward to Montgomery County. Several thousand acres treated for this and other soybean pests. (Farquhar et al.).

BEAN LEAF BEETLE (Cerotoma trifurcata) - KENTUCKY - Averaged two per row foot in Caldwell and Graves Counties. (Barnett, Raney).

CORN ROOTWORMS (Diabrotica spp.) - SOUTH DAKOTA - Adults still active in eastern area. Frost reduced populations by only 20-25 percent. Beetles noted in weedy stubble fields and soybeans. Situation increases damage potential on first year corn in 1975. (Kantack).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Moderate in soybeans in Wagoner County. (Okla. Coop. Sur.).

COTTON

BOLLWORMS (Heliothis spp.) - OKLAHOMA - In Jackson, Tillman, Greer, Harmon, and Kiowa Counties, H. zea (bollworm) eggs ranged 4-20 and larvae 4-12 per 100 terminals; damaged squares ranged 9-18 percent. In Washita and Caddo Counties, eggs averaged 55 and larvae 28 per 100 terminals. In Muskogee County, eggs ranged 0-20 and larvae 2-12 per 100 terminals. (Okla. Coop. Sur.). ARKANSAS - Much cotton past attractive stage for egg laying by Heliothis spp. moths. Eggs heavy on late cotton that is still attractive; larval counts increased on this type cotton, especially in more southern areas. Rainy weather prevented effective control application. H. virescens (tobacco budworm) continued to increase in relation to total Heliothis spp. population. This trend at this time of year noted for several years. Specimens collected from cotton September 10, 12, and 16 in Drew County determined as 4 H. zea and 73 H. virescens. (Boyer).

MISSISSIPPI - Light trap data indicate Heliothis spp. moth activity decreasing. Many fields mature enough that larvae no longer problem. (Robinson). ALABAMA - Heavy moth flights, oviposition, and larvae at 2-85 per 100 stalks continued in much of central and northern acreage. Treatments difficult and expensive. (Smith et al.). TENNESSEE - Larvae feeding on small bolls in central area. Feeding will not affect yield as bolls will not mature before frost. (Cagle).

CABBAGE LOOPER (Trichoplusia ni) - ALABAMA - Larvae partially defoliated several thousand acres of cotton in northern area. Feeding probably more valuable than damaging; allowed more sunlight to bottom bolls and reduced incidence of boll rot. (Jarrett et al.).

BOLL WEEVIL (Anthonomus grandis) - TENNESSEE - Heavy damage noted to few squares left on cotton at present. (Patrick). ALABAMA - Infestations, populations, and damage generally light for time of year, indicating good control efforts statewide. (Smith et al.). MISSISSIPPI - Cotton maturity slowed considerably due to recent cool, wet weather. Weevil feeding time on small bolls prolonged in top one-third of plants in hill counties where cotton still green. (Robinson). ARKANSAS - Treatments for control practically ceased for season. Many producers adding insecticide to defoliant for diapause weevil control. (Boyer). OKLAHOMA - Percent punctured square counts by county ranged up to 80 in Kiowa, up to 43 in Tillman, up to 29 in Greer, up to 26 in Jackson, up to 24 in Harmon, and 0-15 in Muskogee and Wagoner. Averaged 48 percent in Caddo and Washita Counties. Reported heavy in Garvin County. Total of 136 adults collected in 32 pheromone traps in Muskogee County. (Okla. Coop. Sur.).

TOBACCO

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - KENTUCKY - Adults averaged 1.9 per leaf at one location and 0.5 per leaf at second plot in Fayette County. (Barnett).

GRASSHOPPERS - KENTUCKY - Various species caused minor damage to tobacco in Bourbon and Morgan Counties. (Barnett).

POTATOES, TOMATOES, PEPPERS

EUROPEAN CORN BORER (Ostrinia nubilalis) - DELAWARE - Adults averaged about 10 per night in blacklight trap collections in western Sussex County. Infestations in untreated sweet peppers ranged 25-33 percent in this area. (Burbutis). KENTUCKY - Larvae infested about 15 percent of peppers in various plots totalling about 124 acres in Bourbon County. (Barnett).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - NEW HAMPSHIRE - Problem only in unsprayed potatoes and appeared lighter than usual. (Bowman).

BEANS AND PEAS

MEXICAN BEAN BEETLE (Epilachna varivestis) - NEW HAMPSHIRE - Continued small threat to bean crop but detected on late plantings. (Bowman).

A BLISTER BEETLE (Megetra cancellata) - NEW MEXICO - Damaged pinto beans near Deming, Luna County, where treatments applied. This beetle common on desert at this time but not usually damaging to crops. (N.M. Coop. Rpt.).

DECIDUOUS FRUITS AND NUTS

PEACHTREE BORER (Sanninoidea exitiosa) - OKLAHOMA - Heavy in peach and plum trees checked in Comanche County. (Okla. Coop. Sur.).

CODLING MOTH (Laspeyresia pomonella) - IDAHO - Pheromone trap catches at location in Moscow, Latah County: One moth September 13, one September 14, none September 15, one September 16, one September 17, two September 18, none September 19, none September 20. (Portman).

REDBANDED LEAFROLLER (Argyrotaenia velutinana) - NEW HAMPSHIRE - Combination of dry weather and well timed cover sprays resulted in good control of second brood on apples. (Bowman).

APPLE MAGGOT (Rhagoletis pomonella) - NEW HAMPSHIRE - Populations appear light in apples over State; few stings apparent in unsprayed fruit. Despite near-drought conditions, fruit size appears good. (Bowman).

PECAN WEEVIL (Curculio caryae) - MISSISSIPPI - Continued to infest pecans in Hinds County orchard, treatments began. (Neel). OKLAHOMA - Damage heavy to pecans in Payne County. Infestation moderate in Comanche County. (Okla. Coop. Sur.).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Heavily damaged pecans in Payne County. (Okla. Coop. Sur.).

CITRUS

CALIFORNIA RED SCALE (Aonidiella aurantii) - CALIFORNIA - Heavy on citrus in Sacramento area of Sacramento County. Infestations all but eliminated by parasites and predators until 1973 and 1974 when upset of biological agents occurred. This upset probably traceable to severe freeze of 1972. (Cal. Coop. Rpt.).

FOREST AND SHADE TREES

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - NORTH CAROLINA - Epidemic continues to expand with 81 of 100 counties infested during surveys in July 1974. Beetles infested 60 counties as of July 1973, and 71 counties as of January 1974. Infested area increased from 5 million acres in 1972 to 16 million acres during July 1974 on private and government owned land. Number of infested spots ranged up to 1,000 per county. (Hunt).

BLACK PINELEAF SCALE (Nuculaspis californica) - CALIFORNIA - Epidemic on pines in general area of Glenburn, Shasta County, and extends south to Butte County. Infestation has been active for about 5 years; pest usually disappears in about 2 years. Weakened pines currently being "attacked" by Dendroctonus brevicomis (western pine beetle). Scale counts averaged 3 per inch of branch in 1973, averaged 31 per inch in 1974. Parasitism of N. californica ranged 2-3 percent, predation 7-8 percent. D. brevicomis infested high percentage of pines on about 2,000 acres in Glenburn area. Most of infested area is private properties in 5, 10, and 20-acre parcels. Sanitation salvage underway. (Cal. Coop. Rpt.).

INTRODUCED PINE SAWFLY (Diprion similis) - MINNESOTA - Heavy infestations reported on mature white pine in east-central area. Defoliation progressed to point landowners considering controls. Some pupation occurred but percentage unknown. (Hoger).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 152 cases reported from continental U.S. during period September 1-7 as follows: Texas 137, New Mexico 9, Arizona 5, California 1. Total of 364 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 184,012,800 as follows: Texas 166,223,400; New Mexico 5,810,400; Arizona 11,871,000; Oklahoma 108,000. Total of 25,986,600 sterile flies released in Mexico. (Anim. Health).

HORN FLY (Haematobia irritans) - MISSISSIPPI - Adults increased on cattle in Oktibbeha, Clay, and Monroe Counties. Infestations up to 500 per head on some cattle. (Robinson). TENNESSEE - Ranged 5-25 per head on cattle in Hamblen County. (Walker). OKLAHOMA - Counts per head on cattle ranged 50-100 in Wagoner County and 200-300 in Muskogee County. (Okla. Coop. Sur.). KANSAS - Very heavy on some range cattle in Wabaunsee County. Counts of 800-1,000 per head common. (Bell). WISCONSIN - Populations and annoyance to cattle decreased greatly past 14 days due to much cooler weather. (Wis. Ins. Sur.).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Adults continued to oviposit on manure in Monroe County. Some population reduction noted on some farms but still heavy on one Chickasaw County farm where infestations ranged 15-60 per head of beef cattle. (Robinson). TENNESSEE - Ranged 0-5 per head in Hamblen County. (Walker). KENTUCKY - Averaged 15 per animal during midday in Clark County. (Barnett). OHIO - Populations continued to decline as fall weather approaches. Average per face by county as follows: Wayne 2.4, Holmes 8, Ashland 4.9. Adults will begin to enter sheltered areas to overwinter. (Heller, Rheinheimer). WISCONSIN - Due to much cooler weather past 14 days, populations and annoyance to cattle greatly reduced. (Wis. Ins. Sur.).

STABLE FLY (Stomoxys calcitrans) - WISCONSIN - Populations and annoyance to cattle declined greatly due to much cooler weather past 14 days. (Wis. Ins. Sur.).

MOSQUITOES - NEW HAMPSHIRE - Light over most of State due to dry summer. However, Aedes sollicitans greatly annoyed seacoast residents past 14 days. (Bowman). OKLAHOMA - Psorophora spp. adults still common in Payne County area; larvae ranged up to 72 per dip. (Okla. Coop. Sur.).

A BIBIONID FLY (Plecia nearctica) - FLORIDA - Fall generation peaked and now tapering off. First adult noted at Gainesville, Alachua County, August 8; adults common by August 10. This was 7-10 days earlier than expected. Heaviest concentrations noted from Ft. Pierce, St. Lucie County, to Jupiter, West Palm Beach County. No significant populations noted south of Ft. Lauderdale, Broward County. Peak populations occurred in Alachua County September 9-14. (Fla. Coop. Sur.).

WESTERN BLACK WIDOW SPIDER (Latrodectus hesperus) - NEVADA - Began to move into homes and other structures in Las Vegas area, Clark County. (Zoller).

MISCELLANEOUS WILD PLANTS

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - OHIO - Heavy adult populations noted in weeded areas near cornfields in Ashland County. This type infestation usually noted during fall months in weedy areas or flower gardens near cornfields. (Heller, Szatmari-Goodman).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CEREAL LEAF BEETLE (Oulema melanopus) - OHIO - Adults recovered from corn plants in Ashland County. Adults overwinter beneath corn remnants or in wooded areas near fields of cereal crops and grasses. (Heller).

GRASSHOPPERS - NEW MEXICO - Moderate populations of Schistocerca shoshone defoliated trees and shrubs in Albuquerque area, Bernalillo County. (N.M. Coop. Rpt.). CALIFORNIA - Adult survey during August revealed populations of Oedaleonotus enigma, Melanoplus devastator, and Camnula pellucida averaged 50+ per square yard on rangelands in Amador, Calaveras, El Dorado, Sacramento, San Joaquin, Solano, Tuolumne, and Stanislaus Counties. Late season rainfall contributed to dense growth of rangeland vegetation which supported economic population without noticeable damage. (Cal. Coop. Rpt.). UTAH - Grasshoppers generally lighter statewide than at this time in 1973. Migrating from range and vacant lots into many home gardens throughout State. (Stephens, Knowlton).

ORIENTAL FRUIT FLY (Dacus dorsalis) - CALIFORNIA - Saturation trapping revealed additional flies in known infested area in San Diego County. As of September 16, total of 76 flies trapped and 50-100 larvae found. Larvae collected from fruit of Prunus caroliniana and lemon. Additional 83 flies trapped as of September 18. Core area of infestation about 12 square miles. Traps inspected daily. Eradication treatment underway. Single male taken in Steiner trap at Panorama City, Los Angeles County, (see CEIR 24 (38):761) not considered to be connected with infestation in San Diego County. (Cal. Coop. Rpt.). In line 6 of note on this pest in CEIR 24(38):761, D. orientalis should read D. dorsalis. (PPQ).

PINK BOLLWORM (Pectinophora gossypiella) - NEW MEXICO - Damaged bolls ranged 1-8 per 100 cotton bolls checked. First damage of season at Radium Springs, northern Dona Ana County, noted. Populations near Carlsbad, Eddy County, ranged from 5 fields with no damage to 2 fields with 4 damaged bolls per 100 checked; 8, 12, and 32 damaged bolls per 100 bolls found in 3 additional fields. (N.M. Coop. Rpt.).

Fruits and Ornamentals - Total of 652 map-grid points checked during survey for ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus on Oahu; pest found only at 18 sites. Infested sites generally within previously known infestation area. Plants inspected included rose, citrus, pear, grape, orchid, palm, guava, peach, cherry, plum, and apple. Pest found on only rose and citrus durin survey. Although none found on grape and pear, these plants confirmed as hosts prior to survey. (Shiroma). BROAD MITE (Polyphagotarsonemus latus) caused moderate to heavy damage in 200+ acres of passion fruit at Kahului, Maui; estimated 75 percen of young terminal leaves showed injury. Counts ranged 1-3 mites per leaf even after recent sulfur applications. GREENHOUSE THRIPS (Heliothrips haemorrhoidalis) light in planting; about 25 percent of leaves with 3-6 nymphs and adults. (Miyahira).

Turf and Pasture - GRASS WEBWORM (Herpetogramma licarsisalis) larvae and adults light in 200 acres of Kikuyu grass pasture at Hana, Maui. Light damage observed at various sites (total less than one percent of pasture area). Larvae averaged 4 per square foot at infested sites. No damage observed in Pangola grass pastures. All of 50 eggs collected at Kipahulu, Maui, parasitized by Trichogramma sp. (a minute egg parasite). (Miyahira).

Beneficial Insects - Releases of 400 and 1,000 adults of a PLATYGASTERID WASP (Amitis hesperidum) made at Kapahulu, Oahu, August 23 and September 14, 1974, respectively. Releases made as part of cooperative project for control of Aleurocanthus spiniferus (orange spiny whitefly). Oviposition by parasite can occur in all 3 larval stages of A. spiniferus; however, first stage preferred. Adult longevity averages 4-5 days for males, 6 days for females. (Mau).

DETECTION

New County Records - WESTERN CORN ROOTWORM (Diabrotica virgifera) INDIANA - Adams, Montgomery, Parke, Boone, Jay (p. 768).

CORRECTIONS

CEIR 24(36):725, 726 - HORN FLY (Haematobia irritans) - ARKANSAS should read TENNESSEE. FACE FLY (Musca autumnalis) - ARKANSAS should read TENNESSEE.

CEIR 24(38):761 - ORIENTAL FRUIT FLY (Dacus dorsalis) - Line 6: D. orientalis should read D. dorsalis. (PPQ).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight; I = incandescent; MV = mercury vapor; O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Mamestra quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
FLORIDA																								
Gainesville 9/13-19			BL		1			7	7	4									1	18	9	8	1	
ILLINOIS (County)																								
Ogle 9/9-16			BL	7						67							51	17	23		19		10	
KANSAS																								
Great Bend 9/11-17			BL	3		382				38								4	42			1		
Tribune 9/16			BL	2		52				1								1				1		
KENTUCKY																								
Lexington 9/19-20			BL	1						5												4		
MISSISSIPPI																								
Stoneville 9/13-19	59-88	0.04	2BL	29	26			57	169	680								1	20	118	60	32	3997	
NEW HAMPSHIRE																								
Lee 9/10-16			BL																1					
NEW MEXICO																								
Las Cruces 9/16-20			BL							44					67	38							16	
OHIO																								
Wooster 9/14-20			BL	19						16							2	52	34		230	3	7	
OREGON (Counties)																								
Linn 9/12-18			BL	1														4						
Marion 9/12-18			BL	10														40						
TENNESSEE (Counties)																								
Haywood 9/16-20			BL	4				1	1	3									5			6	2	
Madison 9/16-20			BL	4				1	1	3									2			7	2	
WISCONSIN																								
Evansville 9/10-16			BL							1							15		4					
Ripon 9/10-16			2BL														12		14					

Additional Aphids Collected in the Los Angeles State and County Arboretum (Homoptera: Aphididae)

Mortimer D. Leonard 1/ and Harry G. Walker 2/

ABSTRACT - In Proc. Ent. Soc. Wash. 75(2):209-212, 1973, Leonard and Walker published a list of 111 species of aphids collected in the Los Angeles State and County Arboretum from March 1966 through October 1971. The present paper lists 18 additional species.

There now have been about 135 aphids recorded as occurring in the Arboretum. In 1968, Leonard estimated that about 300 species of aphids had been recorded from California (Cornell Memoir 407, p. 4, 1968). Therefore, about 45 percent of all the aphids known to occur in California have been recorded as occurring in the Arboretum.

Aphids in the following list were collected by H.G. Walker. Determinations were made by V.F. Eastop (VFE), A.K. Ghosh (AKG), and C.S. Wood-Baker (W-B).

Aphis ilicis Kaltenbach. November 24, 1971, abundant on Ilex cassinae Linn. (W-B det).

Aphis frangulae Kaltenbach. March 10, 1970, abundant on Rhamnus californica Eschsch. (W-B det); June 21, 1969, moderate on Sarcococca saligna Muell. (W-B det); June 21, 1969, scarce on Sida rhombifolia Linn. (W-B det); July 12, 1969, moderate on Tabeuia donell-smithii F.N. Rose (W-B det).

Aphis medicaginis Koch. July 16, 1970, abundant on Robinia ambigua "decaisneana" (W-B det).

Aphis sambuci Linn. October 24, 1969, abundant on Sambucus kamtschatica E. Wolg (W-B det).

Aphis sedi Kaltenbach. February 4, 1969, abundant on Sedum spectabilis Bor. (W-B det).

Cinara arizonica Wilson. July 24, 1969, abundant on Pinus coulteri D. Don (VFE det).

Cinara fresai Blanchard. June 5, 1971, scarce on Cupressus sempervirens var. stricta Ait. (VFE det); May 4, 1971, scarce on Juniperus chinensis "columnaris glauca" (VFE det); May 1, 1970, abundant on J. c. "Hetzi glauca" (VFE det) and May 20, 1971, abundant (VFE det); March 13, 1970, moderate on J. occidentalis "Silver Star" and April 10, 1971, abundant (VFE det); May 2, 1970, abundant and May 21, 1971, moderate on Juniperus scopulorum "Gray Gleam" (VFE det); March 12, 1970, abundant on J. s. "Staver" (VFE det); March 14, 1970, abundant and April 10, 1971, moderate on J. virginiana "Silver Spreader" (VFE det).

1/ Collaborator, ARS, USDA. Mail address: 2480 16th Street, N.W., Washington, D.C. 20009

2/ Los Angeles State and County Arboretum, 301 North Baldwin Ave., Arcadia, California 91106

Cinara ponderosa (Williams). October 30, 1969, abundant and March 27, 1971, moderate on Pinus canariensis C.S.M. (VFE det).

Essigella essigi Hottes. September 3, 1969, moderate on Pinus sp. (VFE det); March 24, 1968, abundant, March 27, 1970, moderate, and September 9, 1970, moderate on Pinus canariensis (VFE det).

Essigella fusca Gillette & Palmer. May 14, 1968, moderate on Pinus attenuata (VFE det); July 24, 1969, and April 26, 1971, abundant on Pinus coulteri (VFE det).

Hyadaphis (Lipaphis) erysimi Kaltenbach. February 17, 1970, abundant on Capsella bursa-pastoris Medic (AKG det).

Hysteroneura setariae Thomas. October 28, 1970, abundant on Bougainvillea spectabilis Willd. (VFE det).

Masonaphis morrisoni (Swain) or M. pseudomorrisoni MacGillivray. March 13, 1969, scarce, July 24, 1969, moderate, and April 2, 1970, moderate on Cupressus lusitanica Mill. (VFE det); December 23, 1968, March 3, 1969, and June 5, 1971, scarce on Cupressus sempervirens (VFE det); May 21, 1969, abundant and May 4, 1970, scarce on Juniperus chinensis "columnaris glauca" (VFE det); May 19, 1969, scarce and May 26, 1971, abundant on J. chinensis "Hetzi glauca" (VFE det); April 10, 1971, abundant on J. occidentalis "Sierra Silver" (VFE det); May 31, 1971, moderate on J. scopulorum "Gray Gleam" (VFE det).

Masonaphis pseudomorrisoni MacGillivray. April 10, 1971, moderate on Juniperus virginiana "Silver Spreader" (VFE det).

Myzocallis coryli (Goeze). June 30, 1970, abundant on Corylus avellana fuscorubra (AKG det).

Neomyzus circumflexus (Kaltenbach). February 25, 1970, moderate on Artemisia dracunculus Linn. (AKG det).

Neotoxoptera violae (Pergande). June 24, 1970, abundant on Allium schoenoprasum Linn. and February 25, 1970, abundant on Allium tuberosum Rottl. (AKG det).

Rhopalosiphum fitchii (Sanborn). February 5, 1970, moderate on Bromus carinatus Hook & Arn. (AKG det).

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24(39):778-779, 1974

Weather of the week continued from page 766.

Showers and drizzle moved northeastward out of west Texas and Oklahoma Thursday morning. Abilene and San Angelo, Texas, reported flooding of Elm Creek and the Colorado River. In western Texas, McCamey got 10 inches of rain and Rankin got 9 inches. Friday, rain and thundershowers were widespread near a cold front stretching from Texas to Maine. Showers also occurred in the upper and middle Mississippi Valley, the Great Lakes region, Florida, New Mexico, and Arizona. Early morning showers and thundershowers associated with a cold front continued from southern New England through the Ohio Valley and Arkansas into southeast New Mexico on Saturday. In western and south-central Texas, additional rain on already saturated soil triggered more flash flooding. Sunday, showers and thundershowers were scattered from southern Arizona into western and south-central Texas and along the Atlantic coast and the Northeast.

TEMPERATURES: Below normal temperatures blanketed most of the Nation last week. Only sections of the Far West, Atlantic and Gulf coasts reported average temperatures near normal or above. Cool air flowed from Canada across the North Central States. Frost was general across the northern Corn Belt over the weekend. Monday, early morning temperatures in the northern half of the Nation were generally in the 40's and 50's while the Gulf and lower Atlantic Coast States experienced the 60's and 70's. Temperatures remained on the reasonable side with no records broken and very little frost on Tuesday. Wednesday, morning temperatures ranged from the upper 30's in Michigan to the 40's in Maine, 40's and low 50's in the Pacific Northwest, and near the 80's in southern Florida, southern Texas, and the Southwest. Most of the Nation reported early morning temperatures in the 50's and 60's on Thursday. The Northeast experienced cooler readings in the low to mid-40's. Friday, early morning temperatures in the northern Plains and southern Plateau were in the 30's while the 70's were reported along much of the gulf and south Atlantic coasts. Cool weather continued over the Plains and much of the Mississippi Valley Saturday afternoon. In the morning, North Platte, Nebraska, dropped to 29 degrees tying their record low for this date. A low of 28 degrees in Huron, South Dakota, was the coldest ever recorded there so early in the fall. Sunday, cold Canadian air settled across much of the Nation's midsection dropping early morning temperatures into the 30's from the northern Plains to the upper Great Lakes. New daily record lows were set in an area bounded by Sault Ste. Marie, Michigan, St. Louis and Springfield, Missouri, to North Platte, Nebraska, and Duluth, Minnesota.

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October 4, 1974

Cooperative Economic Insect Report

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PLANT PROTECTION AND QUARANTINE PROGRAMS
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ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Pest Survey and Technical Support Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20782

Volume 24 October 4, 1974 Number 40

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

SPRUCE BUDWORM increased sharply in northern and eastern Maine. Heavy moth flights over State this year of much concern in 1975. Seriously infested area in northeastern America totals several million acres. (p. 787).

HORN FLY generally very heavy on cattle across Trans-Pecos area of Texas and heavy along gulf coast area of State. (p. 788).

Fall GRASSHOPPER surveys indicate economic infestations in North Dakota, Nebraska, Kansas, and Oklahoma. These pests economic for first time since 1952 in southeast Kansas. ORIENTAL FRUIT FLY larval infestations reported in Clairemont area, California. (p. 790).

Detection

A CARABID BEETLE reported in New Hampshire is a new State record. (p. 793).

For new county records see page 793.

Reports in this issue are for week ending September 27 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING SEPTEMBER 30

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Cooler than normal temperatures covered the U.S. last week except for the western mountain areas. The greatest negative departures were recorded in west-central Texas, where Abilene temperatures averaged 13 degrees below normal. Moderate frost hit the northern Corn Belt early in the week. In contrast, readings were 4 to 8 degrees above normal in California and Oregon. Most of the week's precipitation fell southeast of a line stretching from southeastern New Mexico to the Great Lakes. Elsewhere, a band of light precipitation fell across the mountains from Texas northwestward through Montana and some heavy thundershowers were reported in central Arizona.

PRECIPITATION: During the week, isolated heavy showers and thundershowers were scattered across the Nation's eastern two-thirds. Heavy precipitation fell across Texas, Oklahoma, Arkansas, Mississippi, Alabama, Georgia, and Florida, measuring from 2.5 to 5 inches. Further north, moderate precipitation was reported throughout the New England area. However, most of the Far West and northern Great Plains remained dry. Monday, thundershowers fell across southern Texas and along the south Atlantic coast. Heavy rains fell during the predawn hours triggering floods in some low lying areas of El Paso, Texas. The Rio Grande flooded from El Paso southward to Fort Hancock. Widespread rains fell from eastern New Mexico across Oklahoma to portions of Arkansas and Missouri on Tuesday. Frederick, Oklahoma, received 2 inches in only six hours while Altus, Oklahoma, and Childress, Texas, got more than 1 inch. Wednesday, showers occurred along the gulf coast in Florida and through the Great Lakes and in the southern Plateau. A tropical depression in the northeastern Gulf of Mexico triggered widespread rains from Florida through the eastern Gulf Coast States to the Tennessee Valley on Thursday. In the afternoon, some thunderstorms occurred in southern Arizona. Organ Pipe Cactus National Monument reported 2 inches of rain in 2 hours and Nogales got 0.62 inch of rain in only one hour. Weather of the week continued on page 794.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

CORN EARWORM (Heliothis zea) - ALABAMA - Larval infestations light to moderate in all soybean fields surveyed in Covington County. Of 12 fields surveyed in Houston County September 20, larvae occurred as follows: 10 fields none, two fields light. Some treatments applied in Covington, Wilcox, and other southern counties. (Pike et al.). MISSISSIPPI - Occasional larvae found feeding on pods in fields where soybeans remain green in Oktibbeha, Clay, and Monroe Counties. (Robinson). OKLAHOMA - Ranged 0-30 per 30 row feet in soybeans in Muskogee and Wagoner Counties. (Okla. Coop. Sur.). UTAH - Occasional adult taken in blacklight traps near Salt Lake City, Salt Lake County, and Logan, Cache County. (Stephens, Knowlton).

CORN LEAF APHID (Rhopalosiphum maidis) - OHIO - Heavy and feeding on corn plants examined in Wayne County. (Heller).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEVADA - Counts per sweep in alfalfa hay fields ranged 0-1 in Pahrump Valley, Nye County, and 0-2 in Moapa Valley, Clark County. (Bechtel, Zoller). NORTH DAKOTA - Averaged 16 per 100 sweeps of alfalfa in Stutsman County September 5, 1974. Ranged 12-48 per 100 sweeps in Griggs, Steele, Burleigh, and Kidder Counties, September 12, 1974. All collections by A. Kaatz. Determinations by W.J. Brandvik. These are all new county records. (Brandvik).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - Several first, second, and third-instar larvae noted in tips of mature grain corn in southern counties. (Wis. Ins. Sur.). OHIO - Corn plants surveyed in Wayne County not heavily infested. Feeding damage light; none of plants examined seriously injured. (Heller, Wells). KENTUCKY - Fall survey showed percent plants infested in 6 counties as follows: Shelby 24.8, Hardin 38.4, Grayson 28.8, Ohio 12, Breckenridge 47.2, Larue 15.2; borers per 100 plants: Shelby 10, Hardin 0.9, Grayson 1.6, Ohio 2, Breckenridge 20.8, Larue zero. (Barnett). FLORIDA - One medium-sized larva found on sorghum leaf September 19 and two full-grown larvae in sorghum stalks just below grain heads September 20 at Marianna Agricultural Research Station south of Greenwood, Jackson County, by A.E. Knutson. (Fla. Coop. Sur.).

FALL ARMYWORM (Spodoptera frugiperda) - NEVADA - Infestations and damage ranged light to heavy on silage corn in Moapa Valley, Clark County. In some fields and areas of some field no damage or infestations found; in other fields, infestations and/or damage present on all plants. (Bechtel, Zoller). MISSOURI - Larvae light in heads of late grain sorghum in southwest area; ranged 0-43 per 100 heads. (Munson). See CEIR 24(31):598. (PPQ).

SORGHUM WEBWORM (Celama sorghiella) - ALABAMA - Larvae damaged 3 fields of grain sorghum in late dough stage in Houston County. (Mathews). MISSISSIPPI - Larvae ranged 2-3 per head (light) in 10-acre sorghum field in Oktibbeha County. (Robinson).

CORN ROOTWORMS (Diabrotica spp.) - WISCONSIN - Recent frost apparently killed many adults, but up to 3-5 beetles per plant found in few cornfields. Heavy silk feeding evident in many southwest area fields. (Wis. Ins. Sur.).

REDLEGGED GRASSHOPPER (Melanoplus femurrubrum) - WISCONSIN - Adults still active and numerous in margins of some southern area cornfields. (Wis. Ins. Sur.).

SORGHUM MIDGE (Contarinia sorghicola) - SOUTH CAROLINA - Collected from sorghum in Saluda County September 10, 1974, by J.W. Riser. Determined by C.A. Thomas. This is a new county record. (McCaskill).

BANKS GRASS MITE (Oligonychus pratensis) - NEW MEXICO - Controls applied to sorghum in Deming area of Luna County. Crop generally mature, economics of control at this time questionable. (N.M. Coop. Rpt.). TEXAS - Population moderate to heavy on isolated grain sorghum crops in Dell City area, Hudspeth County. Recent rain in Pecos Valley practically eliminated populations on sorghum. (Neeb).

TURF, PASTURES, RANGELAND

FALL ARMYWORM (Spodoptera frugiperda) - TEXAS - Increased in south-central area. Numerous infestations reported on Bermuda and Saint Augustine grasses. (Cole). MISSOURI - Light in fescue and orchard grasses in southwest area. Larvae ranged 0-24 per 10 sweeps. (Munson).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - FLORIDA - Larvae damaged centipede grass lawn at Gainesville, Alachua County. (Fla. Coop. Sur.).

TWOLINED SPITTLEBUG (Prosapia bicincta) - SOUTH CAROLINA - Collected from pasture in Laurens County September 16, 1974, by M.L. Outz. Determined by C.A. Thomas. This is a new county record. (McCaskill).

FORAGE LEGUMES

ALFALFA CATERPILLAR (Colias eurytheme) - NEVADA - Ranged 0-5 per sweep in Pahrump Valley, Nye County, alfalfa hay fields. (Bechtel, Zoller). TEXAS - Light in alfalfa fields in Ward, Pecos, and Reeves Counties. (Neeb).

ALFALFA LOOPER (Autographa californica) - OREGON - Unseasonably hot weather past 7 days initiated heaviest adult flights of season. Catch data indicate peak flights in most trapped areas occurred September 19-22, decreased significantly September 23-25 due to cooler weather. Counts in Linn County heaviest yet recorded for single 7-day trapping period since trapping program instituted 3 years ago. (Penrose).

BEET ARMYWORM (Spodoptera exigua) - OKLAHOMA - Heavy infestations noted in alfalfa in Greer and Jackson Counties. (Okla. Coop. Sur.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - FLORIDA - Principal larvae collected on alfalfa at Gainesville, Alachua County; averaged about 50 per 100 sweeps. (Fla. Coop. Sur.).

PEA APHID (Acyrthosiphon pisum) - OHIO - Ranged 4-10 per 10 sweeps in "knee-high" alfalfa in Wayne County. (Heller, Reinheimer). NEVADA - Counts per sweep in alfalfa hay fields ranged 0-4 in Pahrump Valley, Nye County, and 0-2 in Moapa Valley, Clark County. (Bechtel, Zoller).

SOYBEANS

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Ranged light to moderate in Muskogee, Wagoner, Haskell, Le Flore, and McCurtain Counties. (Okla. Coop. Sur.).

GREEN STINK BUG (Acrosternum hilare) - OKLAHOMA - Ranged 1-30 per 30 row feet in Muskogee, Wagoner, Haskell, Le Flore, and McCurtain Counties. (Okla. Coop. Sur.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - TENNESSEE - Light numbers continued to feed on foliage in Franklin County; 5+ percent of fields in county damaged, with damage heavy in about one percent of fields. (Cagle).

PEANUTS

REDNECKED PEANUTWORM (Stegasta bosqueella) - NEW MEXICO - Infested about 30 percent of terminals in field of peanuts checked near Lovington, Lea County. (N.M. Coop. Rpt.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - SOUTH CAROLINA - Collected from peanuts in Greenville County September 17, 1974, by C.K. Palmer. Determined by C.A. Thomas. This is a new county record. (McCaskill).

COTTON

BOLL WEEVIL (Anthonomus grandis) - OKLAHOMA - Punctured squares ranged 12-80 percent in Jackson, Greer, Harmon, Tillman, and Kiowa Counties, and 1-20 percent in Wagoner and Muskogee Counties. Adults averaged one per square in Caddo and Washita Counties; 29 taken in 32 pheromone traps in Muskogee County. (Okla. Coop. Sur.). TEXAS - Infestations noted in isolated fields south of Odessa, Ector County. Activity light in isolated fields in northeast Glasscock County. (Neeb). MISSISSIPPI - Still present in some fields. Most cotton beyond point of damage; however, fruit this pest damages probably will not be harvested. Most control applications have ceased. (Robinson).

BOLLWORMS (Heliothis spp.) - TENNESSEE - Moths heavy in light traps in Haywood and Madison Counties. Some movement from cotton to soybeans may occur. Some damage still occurring in late cotton. (Patrick). ALABAMA - Larvae heavy and damaging in Marengo, Marion, Blount, Cullman, Cherokee, Etowah, and Hale Counties. (McQueen). MISSISSIPPI - Still present in some fields. Most cotton beyond point of damage; however, fruit these pests damage probably will not be harvested. Most control applications have ceased. (Robinson).

TEXAS - Heliothis zea (bollworm) and H. virescens (tobacco budworm) moderately active in Pecos and Reeves Counties; activity heaviest in fields with young vegetative growth on plants. Chemical treatments in Pecos Valley area provided 20-30 percent control of larvae in treated fields. Activity light in El Paso Valley, only few fields with economic larval populations. Larvae light and eggs moderate on plant terminals in Glasscock, Midland, Reagan, and Upton Counties. H. zea and H. virescens populations, along with oviposition, decreased in south-central area past 7 days. (Neeb, Cole).

OKLAHOMA - In Jackson, Greer, Harmon, Tillman, and Kiowa Counties, Heliothis spp. eggs ranged 2-52 per 100 cotton terminals, larvae ranged 3-14 per 100 terminals, and damaged squares ranged 7-18 percent. Much parasite activity reported in Jackson and Greer Counties. In Wagoner and Muskogee Counties, eggs ranged 0-15 and larvae 0-28 per 100 terminals. In Caddo and Washita Counties, larvae ranged 4-5 per 100 terminals. (Okla. Coop. Sur.). NEW MEXICO - H. zea damaged up to 12 bolls per 100 plants observed near Hobbs, Lea County. (N.M. Coop. Rpt.).

BEET ARMYWORM (Spodoptera exigua) - OKLAHOMA - Still moderate to heavy in Greer and Jackson Counties. (Okla. Coop. Sur.).

COTTON LEAFPERFORATOR (Bucculatrix thurberiella) - TEXAS - Still moderate to heavy in isolated cotton fields in Pecos Valley. Some fields noted with 90 percent of plants partially defoliated. Activity still light in south-central area. (Neeb, Cole).

COLE CROPS

CABBAGE APHID (Brevicoryne brassicae) - IDAHO - Caused serious damage to rape where plants under extreme stress in fields east of Nezperce, Lewis County. (Gephart).

GENERAL VEGETABLES

CABBAGE LOOPER (Trichoplusia ni) - OREGON - Adult flight activity increased due to recent warm weather. Counts light at blacklight traps throughout Willamette Valley during period September 19-25. Counts as follows: Linn County, Dever 6; Marion County, St. Paul 2, Keizer 2; Lane County, Coburg 1; Washington County, Hillsboro 1. (Penrose, Collins).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - WASHINGTON - Sex pheromone trap catches in Yakima Valley decreased. Averaged 0.58 per trap week ending September 6. (Eves). Catches at Wenatchee, Chelan County, also decreased; ranged 0-5 week ending September 14. (Rushmore). IDAHO - Pheromone trap catches in Moscow area, Latah County: One moth September 21, one moth September 22, none during period September 23-26. (Portman).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Heavy on pecans in Creek and Comanche Counties. (Okla. Coop. Sur.). MISSISSIPPI - Adult emergence below normal for season statewide. (Robinson).

WALNUT CATERPILLAR (Datana integerrima) - TEXAS - Egg masses light to moderate on Pecos County pecan foliage. Growers urged to make close inspections for feeding damage. (Neeb).

HICKORY SHUCKWORM (Laspeyresia caryana) - TEXAS - Damage to pecan shucks light to moderate in Ward and Winkler Counties. (Neeb).

PECAN NUT CASEBEARER (Acrobasis caryae) - TEXAS - Damage to pecan nuts by third generation ranged light to moderate in Ward County. (Neeb).

BLACK PECAN APHID (Tinocallis caryaefoliae) - TEXAS - Light to heavy on pecan foliage in Ward and Pecos Counties. Ranged 2-6 per compound leaf on foliage of isolated trees. (Neeb).

YELLOW PECAN APHIDS (Monellia spp.) - TEXAS - Light to moderate on pecan foliage in Ward and Winkler Counties. Moderate to heavy on Pecos County pecan foliage, infestations on isolated trees ranged 100-130 per compound leaf. Light on pecan foliage in Crockett, Brewster, and Jeff Davis Counties. (Neeb).

FOREST AND SHADE TREES

SPRUCE BUDWORM (Choristoneura fumiferana) - MAINE - Populations in northern and eastern part of State increased sharply, as well as in eastern Canadian provinces. Total acreage seriously infested with this pest for northeastern America estimated at 70-80 million acres. Heavy moth flight reported in all areas of Maine this year of much concern for 1975. (Gall).

FALL WEBWORM (Hyphantria cunea) - NEW MEXICO - Second-generation larvae about full grown in southern area. Webbing ranged from single limbs to entire trees covered on Populus spp. and Salix spp. in Dona Ana County. (N.M. Coop. Rpt.).

HICKORY HORNED DEVIL (Citheronia regalis) - SOUTH CAROLINA - Collected from hickory in McCormick County September 18, 1974, by J.R. Meredith. Determined by C.A. Thomas. This is a new county record. (McCaskill).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - KENTUCKY - Single specimen collected in oak woods in Hardin County June 28, 1974, by D.E. Barnett. Determined by D.E. Barnett, confirmed by R.A. Scheibner. This is a new county record. (Barnett).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - CALIFORNIA - Adults collected from Chinese elm trees in Garberville, Humboldt County, August 28, 1974, by T. Haig. Determined by F. Andrews. This is a new county record. (Cal. Coop. Rpt.).

ELM LEAF BEETLE (Pyrrhalta luteola) - NEW MEXICO - Defoliation and adult activity on elms moderate at Springer, Colfax County; however, no damage or life stages of beetle observed 40 miles north at Raton, Colfax County. As fall migrations begin, adults moving to buildings in most areas. (N.M. Coop. Rpt.).

A SAWFLY (Caliroa lineata) - KENTUCKY - Aerial survey over Rockcastle, Pulaski, Bell, Casey, Jackson, Laurel, and Adair Counties indicated about 350,000 acres of oak showed scattered to continuous damage. (Barnett, Matuszewski).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 317 cases reported from continental U.S. during period September 15-21 as follows: Texas 297, New Mexico 9, Arizona 9, California 2. Total of 256 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 137,112,400 as follows: Texas 120,152,000; New Mexico 6,125,400; Arizona 10,745,000; California 90,000. Total of 63,268,600 sterile flies released in Mexico. (Anim. Health).

HORN FLY (Haematobia irritans) - KANSAS - Ranged 300-600 per head on range cattle in Cloud, Osborne, and Lincoln Counties, 200-800 per head in Chase, Butler, and Allen Counties. (Bell). OKLAHOMA - Ranged 800-1,500 per head on cattle in Major County and averaged 400 per head in Payne County. Heavy in Hughes County. (Okla. Coop. Sur.). TEXAS - Generally very heavy on cattle across Trans-Pecos area. Ranged 4,000-10,000 per animal on isolated ranches in Pecos County. Reported heavy along the gulf coast. (Neeb, Cole). MISSISSIPPI - Ranged 50-100 per head on beef cattle in Oktibbeha County. (Robinson).

FACE FLY (Musca autumnalis) - KENTUCKY - Adult collected near cattle in Boone County September 23, 1974, by D.E. Barnett. Determined by D.E. Barnett, confirmed by F.W. Knapp. This is a new county record. (Barnett). KANSAS - Counts per head on range cattle ranged 15-30 in Cloud, Osborne, and Lincoln Counties, trace to 7 in Chase, Butler, and Allen Counties. Large numbers entered attic of building for overwintering in Osborne County. Collected on or near cattle in Wabaunsee County September 20, 1974, in Ottawa, Cloud, Mitchell, Osborne, Smith, Phillips, Rooks, and Lincoln Counties September 25, 1974, and in Chase, Butler, Greenwood, Woodson, and Allen Counties September 26, 1974. Collected and determined by K.O. Bell. These are new county records. (Bell). OKLAHOMA - Collected from cattle near Wagoner, Wagoner County, September 18, 1974, by K. Pinkston. Determined by D.C. Arnold. This is a new county record. (Okla. Coop. Sur).

STABLE FLY (Stomoxys calcitrans) - KANSAS - Ranged 15-20 per head on range cattle in Cloud and Osborne Counties, 5-10 per head in Chase, Butler, and Allen Counties. (Bell). OKLAHOMA - Averaged one per head on dairy cattle checked in Payne County. (Okla. Coop. Sur.).

HOUSE FLY (Musca domestica) - OKLAHOMA - Ranged up to 14 (average 8) per Scudder grid in untreated barns in Payne County. Also reported entering homes in large numbers. (Okla. Coop. Sur.).

MOSQUITOES - MINNESOTA - Egg samples collected week beginning September 23 revealed 90+ percent in diapause. Some Aedes vexans activity noted in 7-county Metropolitan Mosquito Control District in spite of temperatures of 24 degrees F. night of September 23. (Minn. Pest Rpt.). OHIO - Total of 1,007 mosquitoes recovered from 19 light traps and 6 biting stations in Richland County September 10-13. Following species recovered: 32 Anopheles punctipennis, 7 A. quadrimaculatus, 30 Aedes triseriatus, 13 A. trivittatus, 756 A. vexans, 2 Culex erraticus, 162 C. pipiens, and 5 Coquillettidia perturbans. (Barry).

HOUSEHOLDS AND STRUCTURES

CIGARETTE BEETLE (Lasioderma serricorne) - SOUTH CAROLINA - Collected in home in Dillon County September 16, 1974, by C.C. Adams. Determined by C.A. Thomas. This is a new county record. (McCaskill).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - NORTH DAKOTA - Adult survey completed in cropland areas in 34 counties in southeast, south-central, southwest, west-central, northwest, north-central, central, and east-central districts. Results showed large increases in southwest and west-central districts; decreases in north-central and east-central districts. Infestations remained about same in northwest, central, and southeast districts. Economic infestations present in parts of Kidder, Grant, Morton, Sioux, Hettinger, Adams, Bowman, Stark, and Billings Counties. Some problems in winter wheat expected later in season. Melanoplus bivittatus, M. differentialis, M. sanguinipes, M. packardii, and M. femurrubrum dominant species in cropland. Economic infestations of 8+ per square yard present in rangeland areas in Billings and Dunn Counties. Estimated 73,000 acres of private, State, and Federal lands infested in Billings County. Estimated 12,000 acres of private, State, and Federal lands infested in Dunn County. Phoetaliotes nebrascensis and Melanoplus dawsoni dominant rangeland species in Dunn County. (Brandvik).

NEBRASKA - Fall adult grasshopper surveys completed. Economic counts of 8+ per square yard found on about 700,000 acres of rangeland and 2 million acres of cropland. Scattered economic populations occur in areas where general populations ranged 3-7 per square yard. Melanoplus differentialis, M. bivittatus, and M. femurrubrum predominant in eastern area. M. sanguinipes, Ageneotettix deorum, Aulocara elliotti, and Phlibostroma quadrimaculatum predominant in western area. Parasitism light in all areas surveyed. Potential for economic populations in 1975 high, if weather patters continue hot and dry. (Bell et al.). KANSAS - Fall adult survey showed no economic infestations involving any sizable area. For State as a whole, Melanoplus differentialis, M. sanguinipes, and M. bivittatus major species on cropland. Ageneotettix deorum, Aulocara elliotti, Trachyrhachys iowa, and Phlibostroma quadrimaculatum major rangeland species. Infestations economic in Flint Hills in southeast area for first time since 1952. M. keeleri luridus economic in Flint Hills for first time. M. flavidus flavidus at economic levels in southwest area. (Bell).

OKLAHOMA - Adult grasshopper survey for 1974 shows about 958,000 acres of rangeland in 27 counties in the Panhandle, northwest, west-central, southwest, south-central, east-central, and southeast areas economically infested with 8 or more per square yard. Predominant species Drepanopterna femoratum, Aulocara elliotti, Ageneotettix deorum, Boopedon nubilum, Melanoplus packardii, M. bivittatus, M. occidentalis, Hesperotettix viridis, and Psoloessa texana. Largest concentration of infested acres noted in northwest and west-central counties while counts in Panhandle counties lightest reported in several years. Infestations in other areas spotty. (Okla. Coop. Sur.).

JAPANESE BEETLE (Popillia japonica) - CALIFORNIA - Eradication program in San Diego, San Diego County, continued with negative detection. Two adults taken to date this season; these beetles outside treatment area and not considered associated with project. Treatment made to airport area where one beetle trapped this season. Last seasonal treatment applied in project area. (Cal. Coop. Rpt.).

ORIENTAL FRUIT FLY (Dacus dorsalis) - CALIFORNIA - About 150 pounds of Catalina cherry fruit removed from tree where larvae collected at Clairemont, San Diego County; larvae found in this fruit. Since initial fly trapped September 6, 1974, larval infestations have been verified in peach, lemon, and Catalina cherry fruit. Intense trapping has not extended original area of infestation of about 12 square miles. Only single fly trapped in La Jolla area. Trap catches decreased sharply after initial catches and as of September 24 all trap inspections have been negative. Eradication treatment underway. (Cal. Coop. Rpt.).

PINK BOLLWORM (Pectinophora gossypiella) - NEW MEXICO - Surveys in Lea County cotton negative to date. (N.M. Coop. Rpt.). TEXAS - Populations still moderate to heavy in "top-crop" bolls in isolated fields in Pecos Valley. Field infestations ranged 30-90 percent boll infestations in "top-crop" bolls. Boll infestations ranged 5-30 percent in "top-crop" bolls in El Paso Valley. Boll infestations ranged 5-20 percent in isolated Glasscock County fields. (Neeb).

WEST INDIAN SUGARCANE ROOT BORER (Diaprepes abbreviatus) - FLORIDA - Adult collected on field-grown plant of Dracaena marginata in nursery at Davie, Broward County, September 26, 1974, by R.L. Chavez. This is first find outside regulated area near Apopka, Orange County. Appropriate regulatory and survey actions placed in operation immediately. (Fla. Coop. Sur.).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight; I = incandescent; M = mercury vapor; O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Lasmyrsia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstripped armyworm)	Trichoplusia ni (cabbage looper)	Crops
FLORIDA																								
Gainesville 9/20-26			BL		1			36	14									1	6	15	17			
KENTUCKY																								
Lexington 9/23-26			BL							1								1			4			
MISSISSIPPI																								
Stoneville 9/20-26	44-88	1.97	2BL	19	8			50	98	541							1	7	57	36	20	716		
NEW HAMPSHIRE																								
Lee 9/23			BL	1																				
NEW MEXICO																								
Las Cruces 9/23-27			4BL							18					117	78							12	
OHIO																								
Wooster 9/21-27			3BL	9						4							1	20	12		50		1	
OREGON (Counties)																								
Linn 9/19-25			BL	31														49						
Marion 9/19-25			3BL	3														36						
PENNSYLVANIA (Districts)																								
Central 9/17-23			BL	3														3	3		1	6		
North East 9/17-23			BL	3														2	3					
TENNESSEE (Counties)																								
Hardeman 9/23-27			BL	8					2	39					1				10		4	7	3	
Madison 9/23-27			BL	1				2		88									5		1	4	6	
WISCONSIN																								
Ashford 9/17-23			BL							1							2		3					
Fox Lake 9/17-23			BL							6							7		1					

Fruits and Ornamentals - Single CITRUS SWALLOWTAIL (Papilio Xuthus) adult taken on Lanai September 7, 1974, by Bob Cushnie. This is a new island record. This butterfly now found on all major islands. (Miyahira). Three specimens of a NOCTUID MOTH (Anua indiscriminata) taken in blacklight traps on Oahu first week of September; one at Honolulu International Airport, 2 at Barbers Point. This first record of blacklight trap catches since first discovery about 3 months ago. (Mau). See CEIR 24(33):660.

Man and Animals - Underground nest of a VESPID WASP (Vespula pennsylvanica) discovered off Alakai Swamp trail at 3,700 feet elevation on Kauai. Nest in dirt bank covered by uluhe fern and about 8 inches in diameter. Another nest recently found along Kawaikoa Stream trail on Kauai. Pain from stings lasts 1-4 days. This wasp first found in State in 1919 at Kokee, Kauai; reported from mountains of Oahu in 1936. Known as V. occidentalis at that time. (Fujii).

Miscellaneous Insects - Single adult of CALIFORNIA TORTOISESHELL (Nymphalis californica) collected inside building at Honolulu, Oahu, September 6, 1974, by H. Fujioka. As no evidence of establishment found, this considered interception until further specimens discovered. (Funasaki).

Beneficial Insects - Adults of a COCCINELLID (Serangium maculigerum) moderate on roses infested with Aleurocanthus spiniferus (orange spiney whitefly) at Kapahulu, Oahu. This coccinellid known predator of diaspine scale insects. As adults found amid larvae and pupae of A. spiniferus, possibility exists species could have been feeding on them. (Au). Many adults of an ICHNEUMONID WASP (Ecthromorpha fuscator) observed in banana plantings at Waiahole, Oahu. Bananas heavily infested with Erionota thrax (banana skipper) larvae. Wasp has been observed in many banana plantings on Oahu and also observed probing E. thrax banana leaf rolls with ovipositer at Pearl City. Possibility good that E. fuscator is parasitizing E. thrax larvae. E. fuscator also known to parasitize other Lepidoptera such as Danaus plexippus (monarch butterfly), Chrysodeixis chalcides, Catabena esula (noctuid moths), and Polydesma umbricola (monkeypod moth). (Murai, Mau). AN ENCYRTID WASP (Ooencyrtus erionotae), an egg parasite, continued to exert good control of E. thrax at leeward and central areas of Oahu. Collections of E. thrax eggs from 5 sites during August showed 82 percent parasitism. Parasitism at the 80 to 90-percent level was reached within 4-5 months with release of 300-600 O. erionotae. Banana plantings ranged 0.5-1 acre in area. (Kumashiro, Murai).

)ETECTION

lew State Record

CARABID BEETLE (Platypatrobus lacustris) - NEW HAMPSHIRE - umerous in beaver lodge at Ossipee, Carroll County. Collected ugust 30, 1974, by P.M. Choate and T.J. Dyrkacz. Determined by .L. Blickle. (Blickle).

ew County Records - ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) ENTUCKY - Hardin (p.787). CIGARETTE BEETLE (Lasioderma serricorne) OUTH CAROLINA - Dillon (p. 789). FACE FLY (Musca autumnalis) ENTUCKY - Boone. KANSAS - Wabaunsee, Ottawa, Cloud, Mitchell, sborne, Smith, Phillips, Rooks, Lincoln, Chase, Butler, Green- ood, Woodson, Allen. OKLAHOMA - Wagoner (p. 788). HICKORY HORNED EVIL (Citheronia regalis) SOUTH CAROLINA - McCormick (p. 787). ESSER CORNSTALK BORER (Elasmopalpus lignosellus) SOUTH CAROLINA - reenville (p. 783). SMALLER EUROPEAN ELM BARK BEETLE (Scolytus ultistriatus) CALIFORNIA - Humboldt (p. 788). SORGHUM MIDGE Contarinia sorghicola) SOUTH CAROLINA - Saluda (p. 784). SPOTTED LFALFA APHID (Therioaphis maculata) NORTH DAKOTA - Stutsman, riggs, Steele, Burleigh, Kidder (p. 783). TWOLINED SPITTLEBUG Prosapia bicincta) SOUTH CAROLINA - Laurens (p. 784).

Weather of the week continued from page 782.

Friday, a tropical depression triggered heavy predawn rains dumping 2 inches of moisture on St. Petersburg, Florida, before dissipating. Elsewhere, a mixture of snow and rain fell on the northern and central Rockies and along the foothills to the east. Scattered showers and a few thundershowers occurred from the Atlantic coast across the Mississippi Valley into Kansas and Oklahoma on Saturday. Charlotte, North Carolina, measured 2 inches. During the early morning, Erie, Kansas, got 1.50 inches and Windsor, Missouri, got 1 inch. Sunday, widespread precipitation fell in northern and eastern sections of the Nation as a slow-moving storm system inched across the central Great Lakes region. A storm system also triggered showers and thundershowers from the New England States down the Atlantic coast to Cape Hatteras, North Carolina.

TEMPERATURE: Most of the Nation experienced below-normal temperatures last week. Cool weather in the North Central States at the beginning of the week combined with exceptionally high temperatures on Thursday producing weekly readings 1 to 2 degrees below normal. Only Florida, some Midwest States, and the Far West reported temperatures near normal or above. Monday, record low temperatures were set in an area from southeast Minnesota and northwest Pennsylvania to west-central Georgia. Clear skies and record cold temperatures covered the northern and middle Atlantic coast to the lower Great Lakes on Tuesday. Some record lows were recorded at the following locations: Providence, Rhode Island, 34 degrees; Hartford, Connecticut, 30 degrees; Binghamton, New York, 23 degrees; Scranton, Pennsylvania, 30 degrees; and Cleveland, Ohio, 36 degrees. Wednesday, cool morning temperatures continued across much of eastern two-thirds of the Nation with readings in the 50's from central Texas to the Great Lakes, and the 40's reaching south into Virginia and North Carolina. Meanwhile, southern Texas and Florida remained mild with readings in the 70's. Minimum temperatures were cooler than normal during the early morning hours across most of the Nation on Thursday. During the afternoon, high temperature records were broken in North Dakota, South Dakota, Nebraska, and Wisconsin with temperatures ranging from 86 degrees to 90 degrees. Friday, cool air replaced Thursday's record-breaking heat in the northern Plains. Temperatures were on the cool side, down in the 50's and 60's. Freezing temperatures prevailed as far south as northern New Mexico over the western mountains on Saturday morning. One of the lowest readings was 18 degrees at Laramie, Wyoming. Sunday, early afternoon temperatures held in the 30's in northern portions of Montana and North Dakota. The coldest evening temperatures were recorded in northern Minnesota where the mercury dipped into the 20's.

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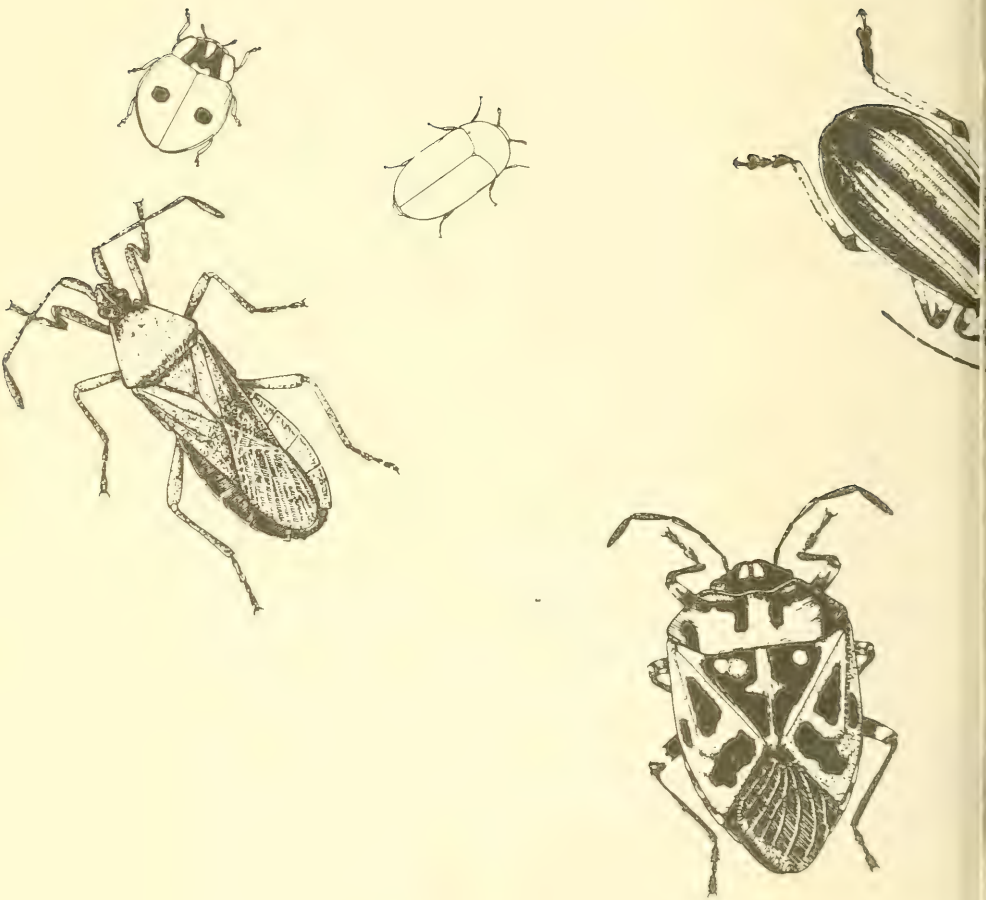

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ANIMAL AND PLANT HEALTH INSPECTION SERVICE
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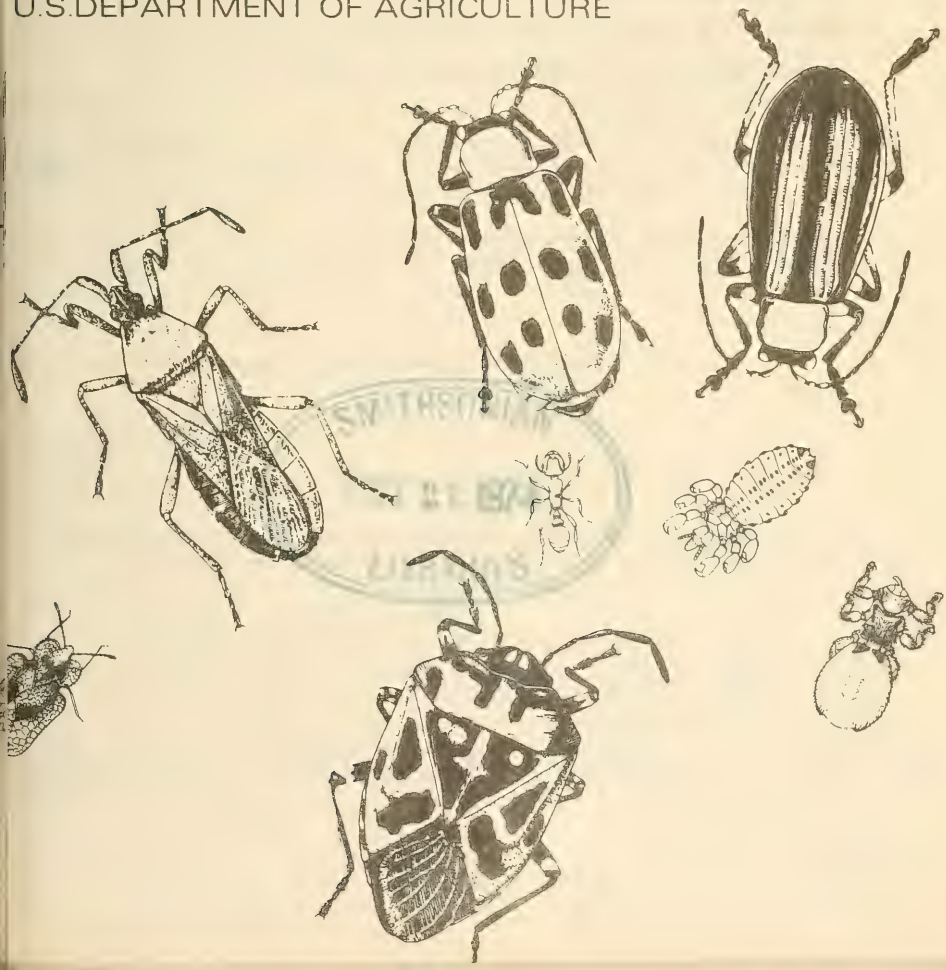

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 24 October 11, 1974 Number 41

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

CORN EARWORM damage to lima beans well below normal in all areas of Maryland Eastern Shore. (p. 797).

SOUTHWESTERN CORN BORER fall survey in Kansas showed significant infestations much farther north in State than usual. Annual CORN ROOTWORM adult survey in Wisconsin showed statewide average population to be twice that of 1973; lodging appeared to be heaviest observed for several years. (pp. 797-798).

Prediction

CORN ROOTWORM potential for damage to corn in 1975 high in Wisconsin. (p. 798).

Detection

- OLEANDER HAWK MOTH collected in Hawaii is the first report of this sphingid for the United States, but is not known to occur in the continental U.S. (p. 803).

New State records include EUROPEAN ALFALFA BEETLE in New York (p. 799), a PHALONIID MOTH in Hawaii (p. 803), and PIGEON FLY in Indiana (p. 802).

For new county and island records see page 804.

Special Reports

Whitefringed Beetle Quarantines. Map. Centerfold.

Reports in this issue are for week ending October 4 unless otherwise indicated.

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Whitefringed Beetle Quarantines. Map. Centerfold.

WEATHER OF THE WEEK ENDING OCTOBER 7

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Cool Canadian air surged across the Nation for the second consecutive week. Average temperatures for the week in most of the area east of the Mississippi River ranged from 10 to 15 degrees below normal with the greatest departures in North Carolina and South Carolina. Columbia, South Carolina, averaged 15 degrees below normal. Parts of the Southwest reported above normal temperatures for the week. Central California and Arizona reported temperatures ranging from 3 to 7 degrees above normal. Little or no precipitation was recorded last week in the Southeastern United States from Texas through Pennsylvania with the exception of Florida. A stationary Low in the Bahamas produced one to two inche of rain along the east coast of Florida. In the North Central United States, cool air moving southward collided with warm moist air from the gulf, triggering scattered showers with rains totaling up to 2 inches in some areas. Other areas of the Midwest received only scattered light rain. Elsewhere, an inverted trough over Baja California and Mexico triggered widely scattered showers in New Mexico, Arizona, and central California. Bakersfield, California, reported 1.22 inches.

PRECIPITATION: Monday, precipitation was limited with very few exceptions. Amounts were less than 0.25 inch. A weak weather system in the Great Lakes region brought over 2 inches of snow over portions of the Upper Michigan Peninsula on Tuesday. Later, a stationary front triggered scattered thundershowers across extreme southern Florida. Wednesday, in Upper Michigan 3 inches of snow accummulated at the Marquette Airport and 1 inch at Sault Sainte Marie. Akron, Ohio, reported the earliest measurable snowfall on record with 0.50 inch on the ground. A cold front brought scattered showers and thundershowers to the Pacific Northwest and central California. Snow fell in the higher elevations of West Virginia, Pennsylvania, and New York on Thursday. Weather of the week continued on page 806.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

CORN EARWORM (Heliothis zea) - CALIFORNIA - Larvae heavy in fields of milo in southern Imperial County. Larvae fed in whorls; damaged new leaf development and retarded growth. (Cal. Coop. Rpt.). OKLAHOMA - Averaged 2 per 10 sweeps in Payne County alfalfa; light in Caddo and Washita Counties. Ranged 0-20 per 50 row feet in Muskogee County soybeans. (Okla. Coop. Sur.). MARYLAND - Larval injury to lima bean pods well below normal in all areas of Eastern Shore. Counts ranged 1-3 per 20 row feet in 6,000 acres of late lima beans. (U. Md., Ent. Dept.).

GREENBUG (Schizaphis graminum) - WASHINGTON - Infestation light to moderate on wheat throughout Horse Heaven Hills, Benton County. (Klostermeyer). Populations somewhat heavier at Bickelton, Klickitat County, and some fields will need treating. (Forster et al.). KANSAS - Trace infestations noted in one Haskell County wheatfield. (Bell). OKLAHOMA - Occasional colonies of 20-50 aphids noted on young wheat in Washita County. (Okla. Coop. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NORTH DAKOTA - Collected from alfalfa in Wells, Sheridan, Pierce, McHenry, Ward, Mountrail, Williams, Divide, McLean, and Foster Counties during period September 16-27, 1974. Counts ranged 8-320 per 100 sweeps. Collected and determined by A. Kaatz. These are new county records. (Kaatz).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - Infestations sometimes heavy in Gray County corn. Infestations ranged 16-96 percent in 4 fields, some ear drop noted. Very light in Clark County corn. Collected September 18, 1974, and determined by M.L. Shuman. This is a new county record. (Bell). KENTUCKY - Fall survey in 4 counties showed percent infested plants as follows: Nelson 48.8, Barren 43.2, Warren 60, Simpson 66.4; borers per 100 plants: Nelson 25.2, Barren 5.2, Warren 45.6, Simpson 18.8. (Barnett).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - OKLAHOMA - Counts in 3 cornfields in Turpin area, Beaver County, ranged 15-32 (average 23.3) percent of stalks girdled and 9-20 (average 13.3) percent lodged. Counts in 16 Texas County fields ranged 1-17 (average 19.4) percent girdled and 1-55 (average 10.4) percent lodged. In Cimarron County, ten fields ranged 2-16 (average 7) percent girdled and 1-3 (average 1.6) percent lodged. Average for all 29 fields 15.6 percent girdled and 7.7 percent lodged. Few of fields checked still 3-4 weeks away from harvest and counts will probably increase. Few fields showed much lodging due to stalk rot (up to 50 percent). Larvae in late-planted fields mostly still spotted but in early planted fields as many as two-thirds of larvae changed to overwintering form. (Okla. Coop. Sur.).

MISSOURI - Southwestern corn borer light to moderate in southwest area corn. Infested plants ranged 2-23 percent. Girdled plants in unpicked fields ranged 0-11 percent. Larvae collected from corn at Minnith, Ste. Genevieve County, September 27, 1974, by G.M. Chippendale. This is a new county record. (Munson). KANSAS - Partially completed fall survey showed significant infestations

much farther north than has been usual last few years. Some moderate to heavy infestations of southwestern corn borer found in Ellis County where none found in 1973. Some moderate infestations found in Rush and Ness Counties. (Bell).

SORGHUM WEBWORM (Celama sorghiella) - MISSOURI - Light on sorghum in southwest area. Larvae ranged 0-17 per 10 heads. (Munson). MISSISSIPPI - Ranged up to 5 per head on sorghum in Oktibbeha, Clay, and Monroe Counties. (Robinson).

CORN ROOTWORMS (Diabrotica spp.) - WISCONSIN - Annual adult survey completed September 4 and data from 225+ fields partially analyzed. Adult average twice that of August 1973. Statewide average population 0.6 per plant in 1973 and 1.2 per plant in August 1974. Potential for Diabrotica spp. damage to corn high for 1975 season. Average of one adult per plant considered to pose threat for following season in any individual field; most fields in major corn-growing counties of State had such counts, or heavier. Adults had begun to disperse from some of more heavily infested fields by time survey made. Egg laying conditions excellent this season, but not as good as in 1973. Egg survey planned for late September and early October. D. virgifera (western corn rootworm) increased after decline past few years; species dominant in individual cornfields as far east as Lake Michigan. D. virgifera clearly dominant in Polk, Barron, Washburn, Chippewa, Eau Claire, Clark, Jackson, Pepin, Buffalo, Juneau, Marquette, Washara, Portage, Waupaca, and Shawano Counties. D. longicornis (northern corn rootworm) dominant in Dunn, Monroe, Vernon, Outagamie, Brown, Calumet, and Manitowoc Counties. In all other counties, these species present in about equal numbers and any individual field might show dominance by either species. Leaf feeding by D. virgifera was extensive in several heavily infested western area fields. Lodging appeared to be heaviest observed for several years; ranged to 100 percent in some fields. In several fields chemically treated in spring 1974, lodging ranged 5-15 percent. Silk feeding was heavy in few fields where populations heavy, but no significant impairment of pollination noted, at least in fields checked. During week ending September 13, Diabrotica spp. adults heavy in few fields of sweet corn, silk feeding extensive. Counts of 3-8 per silk common in sweet corn in Dane, Rock, Jefferson, Columbia, Dodge, Fond du Lac, and Ozaukee Counties. Large numbers of adults noted feeding on alfalfa, pumpkin, and goldenrod. During week ending October 4, few D. virgifera and D. longicornis adults still active, but most found dead under cornhusks. (Wis. Ins. Sur.).

BILLBUGS (Sphenophorus spp.) - NORTH CAROLINA - Survey conducted during June 1974 in Coastal Plain counties showed these pests as major economically important insects associated with seedling corn. Of 7,250 plants examined in 38 counties, 3.3 percent had detectable billbug injury. Collections showed S. callosus predominant over S. maidis (maize billbug). Conoderus spp. (wireworms) and Diabrotica undecimpunctata howardi (southern corn rootworm) damaged plants constituted only 1.2 percent of seedlings examined. Crop rotation very important in billbug control. Of 178 fields examined with known 1973 crop history, 38 percent had corn and 41 percent soybeans. Remainder of fields: Peanuts 6 percent, tobacco 3 percent, cotton 1.6 percent, and pastures, weeds, and others 10 percent. (Hunt et al.).

CHINCH BUG (Blissus leucopterus leucopterus) - KANSAS - Adults and nymphs averaged 5 per plant on lower stems of corn in southern Osage County field. (Bell).

BANKS GRASS MITE (Oligonychus pratensis) - ARIZONA - Infested milo in Stewart district of Cochise County. Collected by S. Kozloski. Determined by D. Tuttle. (Ariz. Coop. Sur.).

TURF, PASTURES, RANGELAND

A BILLBUG (Sphenophorus venatus) - MARYLAND - Larvae averaged 5 per square foot in 20,000 square feet of zoysia sod near Severna Park, Anne Arundel County. (U. Md., Ent. Dept.).

SOUTHERN CHINCH BUG (Blissus insularis) - CALIFORNIA - Infested lawn grass locally in Santa Rosa, Sonoma County. Collected August 1, 1974, by Francis Kirby. Determined by A. Hardy. This is a new county record. (Cal. Coop. Rpt.).

A WHITEFLY (Aleurocybotus occiduus) - ARIZONA - Heavy in Bermuda grass seed fields at Yuma, Yuma County. Some growers treated to prevent honeydew buildup which complicates seed harvest. (Ariz. Coop. Sur.).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - OKLAHOMA - First adult of fall season taken in Payne County alfalfa. None found in fields checked in Marshall County. (Okla. Coop. Sur.).

ALFALFA CATERPILLAR (Colias eurytheme) - TEXAS - Light to moderate in isolated alfalfa fields in Ward and Reeves Counties. (Neeb). ARKANSAS - Still active in alfalfa but very light as usual. Only occasional specimen collected in Washington County. (Boyer).

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Heavy in alfalfa in Caddo and Washita Counties, light in Marshall County. (Okla. Coop. Sur.). ARKANSAS - Light, less than 100 per 100 sweeps, in alfalfa in Washington County. (Boyer).

EUROPEAN ALFALFA BEETLE (Subcoccinella vigintiquatuorpunctata) - NEW YORK - Single live adult collected from bouncing bet along railroad tracks at Barton, Tioga County, October 1, 1974, by P.E. Gerber. This is a new State record. (PPQ). PENNSYLVANIA - Thirty adults noted on bouncing bet at Reinholds, Lancaster County, September 11; weather overcast, humid, and rainy. No larvae found since July 17; only slight indication of feeding, no damage reported. (McGinnett).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - ARKANSAS - Only adults still active and light in Washington County alfalfa. (Boyer). OKLAHOMA - Heavy in alfalfa in Caddo and Washita Counties. Ranged 10-15 per 10 sweeps in Payne County. (Okla. Coop. Sur.).

SOYBEANS

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - SOUTH CAROLINA - Infestation of 6 larvae per plant caused foliage damage to 20 acres of soybeans in Bamberg County. Collected and determined by V.H. McCaskill September 30, 1974. This is a new county record. (McCaskill). ALABAMA - Recent generation pupated and adults now ovipositing on young soybeans in Marengo County. Heavy leaf feeding expected soon in late soybeans. Larvae noted throughout Covington County. (Yates, Pike).

MEXICAN BEAN BEETLE (Epilachna varivestis) - NORTH CAROLINA - Surveys conducted week ending September 27 in total of 50 soybean fields from Wake County to Washington County, Wake County to Duplin County, and Wake County to Robeson County revealed 4 percent of fields sampled had economically significant defoliation. Highest incidence of economic damage occurred in Robeson and Cumberland County area. Some fields in that area treated twice. (Hunt).

SOUTHERN GREEN STINK BUG (Nezara viridula) - MISSISSIPPI - Light infestation remains in some Adams County fields. (Robinson). ALABAMA - Mixed populations of N. viridula and Euschistus servus (brown stink bug) light to moderate in most late Marengo County fields. Few, if any, fields nearing economic damage. Spotted infestations noted in several Perry County fields. (Yates, Henderson).

GREEN STINK BUG (Acrosternum hilare) - OKLAHOMA - Ranged 0-30 per 30 row feet in Wagoner and Haskell Counties. (Okla. Coop. Sur.).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Ranged 1-10 per 100 sweeps in Muskogee and Wagoner Counties and averaged 2 per 10 sweeps in Tulsa County. (Okla. Coop. Sur.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - OKLAHOMA - Weevils punctured all of remaining squares in Caddo and Washita Counties. Averaged 18 percent in Wagoner and Muskogee Counties. One hundred adults taken in 32 pheromone traps in Muskogee County. (Okla. Coop. Sur.) TEXAS - Fall migration of adults from isolated fields in eastern section of Garden City and in northeast section of Glasscock County created infestation in about 4,500 acres of cotton in county. Due to recent rainfall, 1974 spray program not yet initiated. (Neeb). ALABAMA - Feeding and oviposition punctures on second-growth squares and older bolls continued throughout State. Damage by this pest and others increased boll rot problem in thousands of acres, especially noted in Colbert, Lawrence, Limestone, Morgan, Blount, Hale, and Tuscaloosa Counties. (McQueen).

BOLLWORMS (Heliothis spp.) - OKLAHOMA - Eggs ranged 0-18 per 100 terminals in Wagoner and Muskogee Counties. Larvae ranged 0-14 per 100 terminals, and damaged squares ranged 2-18 percent. Light in Caddo and Washita Counties. (Okla. Coop. Sur.). TEXAS - H. zea (bollworm) and H. virescens (tobacco budworm) light to moderate in most Pecos Valley area fields. Activity light in El Paso Valley and in Glasscock County area. Moderate populations noted feeding on foliage in south-central area. (Neeb, Cole).

THE FOLLOWING REGULATED ARTICLES TO BE MOVED FROM GENERALLY INFESTED AREAS (RED) REQUIRE A CERTIFICATE OR PERMIT YEAR-ROUND EXCEPT AS INDICATED:*

1. Soil, separately or with other things.

   Soil samples shipped to approved laboratories do not require attachment of certificate or permit.**

   Potting soil is exempt if commercially prepared, packaged, and shipped in original containers.
2. Plants with roots with soil attached except houseplants grown in the home and not for sale.

   Transplants are exempt if substantially free of soil.***
3. Grass sod.
4. Used mechanized soil-moving equipment.

   Used mechanized soil-moving equipment is exempt if it has only compacted soil or is cleaned of all noncompacted soil.
5. Any other products, articles, or means of conveyance of any character whatsoever, not covered by the above, when it is determined by an inspector that they present a hazard

WHITEFRINGE

UNITED STATE
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COUNTIES ENTIRELY COLORED ARE COMPLETELY REGULATED;

COUNTIES WITH COLORED DOT ARE PARTIALLY REGULATED.

GENERALLY INFESTED AREA--STATE AND FEDERAL REGULATIONS.
(ERADICATION TREATMENTS NOT IN PROGRESS OR PLANNED.)

SUPPRESSIVE AREA--STATE AND FEDERAL REGULATIONS.
(ERADICATION TREATMENTS APPLIED OR IN PROGRESS.)

STATE REGULATIONS ONLY.
(ERADICATION TREATMENTS APPLIED OR IN PROGRESS.)

ERADICATED--REGULATIONS REMOVED.

RESTRICTIONS ARE IMPOSED ON THE MOVEMENT OF REGULATED ARTICLES FROM A REGULATED AREA AS FOLLOWS:

1. RED INTO OR THROUGH GREEN, BLUE, OR WHITE.
2. GREEN INTO OR THROUGH BLUE OR WHITE.
3. GREEN INTO GREEN.
4. GREEN WITHIN GREEN°.
5. BLUE INTO ANY OTHER AREA°°.

° WHEN IT IS DETERMINED BY THE INSPECTOR THAT A HAZARD OF SPREAD EXISTS.

°°ONLY WHEN REQUIRED BY STATE QUARANTINE REGULATIONS OR BY AN AUTHORIZED INSPECTOR.

CONSULT YOUR STATE OR FEDERAL PLANT PROTECTION INSPECTOR OR YOUR COUNTY AGENT FOR ASSISTANCE REGARDING EXACT AREAS UNDER REGULATION AND REQUIREMENTS FOR MOVING REGULATED ARTICLES. FOR DETAILED INFORMATION CONSULT 7 CFR 301.72 FOR QUARANTINE AND REGULATIONS.

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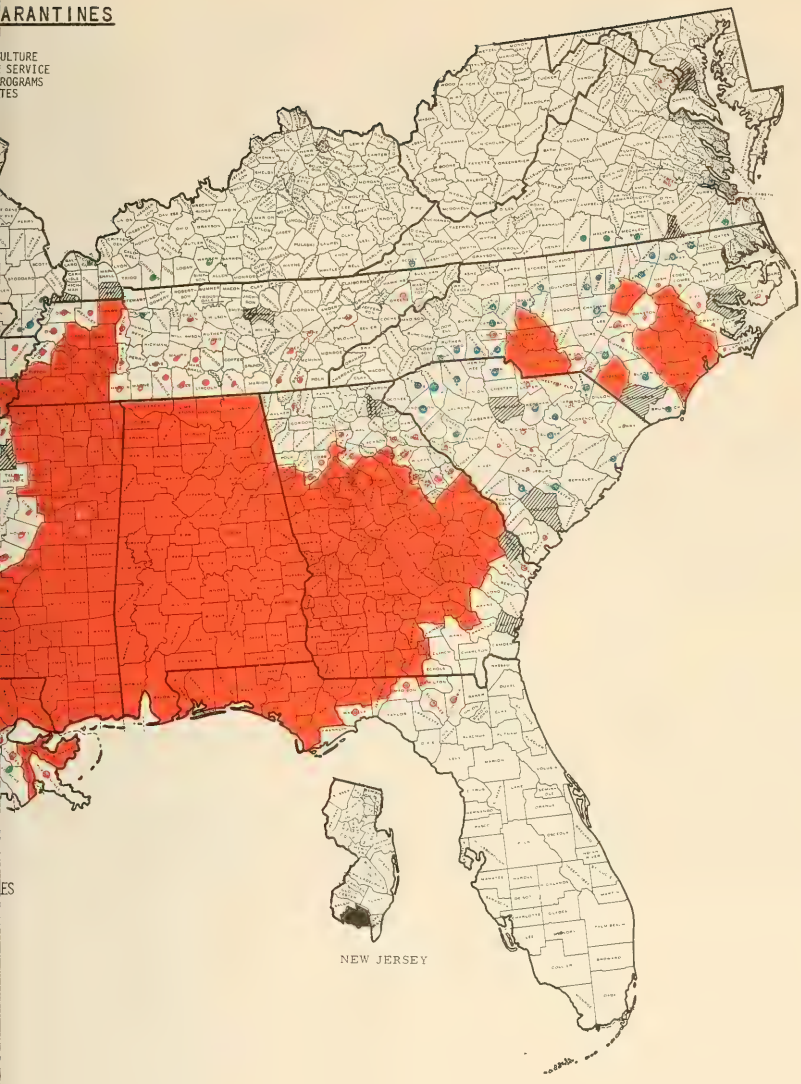

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o ''U. S. G. P. O.:'' 1974-740-899

(GREEN) AND STATE REGULATED (BLUE) AREAS REQUIRED A CERTIFICATE OR PERMIT YEAR-ROUND EXCEPT AS INDICATED:*

1. Bulk soil.
2. Used mechanized soil-moving equipment.

   Used mechanized soil-moving equipment is exempt if cleaned of all loose, noncompacted soil.
3. Any other products, articles, or means of conveyance of any character whatsoever, not covered by the above, when it is determined by an inspector that they present a hazard of spread of whitefringed beetles, and the person in possession thereof has been so notified.

* See "Restrictions Imposed on Movement of Regulated Articles" on the reverse side.

** Information as to approved laboratories may be obtained from an inspector.

*** Not sufficient soil to harbor whitefringed beetle larvae.

COTTON APHID (Aphis gossypii) - NEW MEXICO - Late season buildup observed in some fields north of Las Cruces, Dona Ana County. Due to cool weather and late season, these fields should be watched as some lint staining could substantially lower grades. (N.M. Coop. Rpt.).

POTATOES, TOMATOES, PEPPERS

A FLEA BEETLE (Epitrix similaris) - CALIFORNIA - Collected from Solanum spp. in French Gulch, Shasta County, August 28, 1974, by E. Paddock and J. Falkenstron. Determined by T. Seeno. This is a new county record, and represents a 200-mile extension of its range from Sacramento County. This flea beetle is known from coastal area of southern part of State. (Cal. Coop. Rpt.).

GENERAL VEGETABLES

SALTMARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Foil barriers installed around some lettuce fields in Yuma area of Yuma County as larvae began to migrate. (Ariz. Coop. Sur.).

SMALL FRUITS

STRAWBERRY CROWN MOTH (Synanthedon bibionipennis) - OREGON - Infested 675 acres of strawberries in western Washington County. About 125 acres observed with 50-100 percent of crowns infested with up to 21 larvae per crown noted; 8.1 borers per crown average for very severely infested field. Infested crowns ranged 10-49 percent on 150 acres and 0-9 percent on 400 acres. (Collins).

ORNAMENTALS

A ROOT MEALYBUG (Rhizoecus americanus) - FLORIDA - All stages moderate on roots of 20 Yucca glauca (soapgrass) plants of 100 plants examined at nursery in Samsula, Volusia County. This is a new host record for this mealybug in State. (Fla. Coop. Sur.).

FOREST AND SHADE TREES

SPINY OAKWORM (Anisota stigma) - WEST VIRGINIA - Larvae caused light damage to black oak in Spencer, Roane County. Collected September 30, 1974, by J.M. Atkins. Determined by J.D. Hacker. This is a new county record. (Hacker).

PIPEVINE SWALLOWTAIL (Battus philenor) - WEST VIRGINIA - Larvae collected on shagbark hickory at White Oak Creek, Ritchie County, August 15, 1974, by J.P. Szeliga. Determined by A.R. Miller. This is a new county record. (Hacker).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 317 cases reported from continental U.S. during period September 22-28 as follows: Texas 305, New Mexico 3, Arizona 5, California 2, Oklahoma 2. Total of 892 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 164,556,000 as follows: Texas 153,752,400; New Mexico 3,360,600; Arizona 6,903,000; California 540,000. Total of 35,849,400 sterile flies released in Mexico. (Anim. Health).

HORN FLY (Haematobia irritans) - KANSAS - Ranged 100-200 per head on range cattle in southwest district. (Bell). OKLAHOMA - Averaged 2,000 per head on bulls, 650 per head on cows, and 500 per head on steers in Payne County. Moderate in Craig County. (Okla. Coop. Sur.). TEXAS - Light to moderate on cattle in Pecos, Brewster, Jeff Davis, Crockett, Upton, and Glasscock Counties. (Neeb). MISSISSIPPI - Ranged 50-60 per head of beef cattle in Monroe County and 75-100 per head in Oktibbeha County. (Robinson). FLORIDA - Adults increased and averaged 408 per animal on crossbre steers at Belle Grade, Palm Beach County. In past, counts usually reached 600 per animal by early fall. (Fla. Coop. Sur.).

FACE FLY (Musca autumnalis) - KENTUCKY - Adults collected in Campbell, Kenton, and Gallatin Counties September 23, 1974, near cattle by D.E. Barnett. Determined by D.E. Barnett and confirmed by F.W. Knapp. These are new county records. (Barnett, Gregory). OKLAHOMA - Moderate populations still active on Craig County cattle. (Okla. Coop. Sur.).

PIGEON FLY (Pseudolynchia canariensis) - INDIANA - Originally collected in one of buildings of Navarre Junior High Scool at South Bend, St. Joseph County, January 30, 1974, by R. Mrozinski and J.L. Petersen. Adults observed biting humans at this location March 1, 1974. Determined by D.P. Saunders. This is a new State record. (Saunders).

HOUSEHOLDS AND STRUCTURES

OLDHOUSE BORER (Hylotrupes bajulus) - SOUTH CAROLINA - Collected from window facing in Florence County residence by H.F. Livingston September 24, 1974. Determined by C.A. Thomas. This is a new county record. (McCaskill).

BENEFICIAL INSECTS

A CHALCID WASP (Brachymeria intermedia) - WEST VIRGINIA - Total of 3,600 adults of this pupal parasite of Porthetria dispar (gypsy moth) released in Greenbrier County 3 miles west of Frankford September 24, 1974, by C.C. Coffman and J.D. Hacker. (Hacker).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

ORIENTAL FRUIT FLY (Dacus dorsalis) - CALIFORNIA - Eradication treatment progressing in San Diego County. Intensive trapping and fruit collection yielded 16 flies and 60 larvae; 8 larval collections were from tangerine, lemon, plum, and apple, all dooryard hosts. (Cal. Coop. Rpt.).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Infestations light to heavy in isolated cotton fields in El Paso, Pecos, Reeves, Glasscock, and Reagan Counties. (Neeb). ARKANSAS - Additional counties in which adults collected in pheromone traps in 1974 include Lafayette, Little River, and Miller Counties. This makes total of 18 counties in which pink bollworm collected in 1974. (Boyer).

SWEETPOTATO WEEVIL (Cylas formicarius elegantulus) - ALABAMA - All life stages noted in several locations at Kinston, Coffee County. (Johnson).

EST INDIAN SUGARCANE ROOT BORER (Diaprepes abbreviatus) - LORIDA - Adults moderate on leaves of 197 of 250 schefflera ants (Brassaia actinophylla) and infested 15 of 150 sweet range trees (Citrus sinensis) at nursery in Davie, Broward unty. Specimens collected September 30, 1974, by R.L. Chavez, C. Clinton, and K.L. Tyson. Determined by R.E. Woodruff. This dicates an established infestation and that specimen reported CEIR 24(40):790 constituted a new county record. (Fla. Coop. ir.).

HAWAII INSECT REPORT

State Records - Single adult of OLEANDER HAWK MOTH (Deilephila rii (L.)) collected at Hickam Air Force Base, Oahu, September 18, 74, by E.S. Shiroma. Determined by R. Kunishi and R. Onzuka. dfirmed by E.L. Todd. This is a new United States record, but s sphingid is not known to occur in the continental U.S. About larvae (several instars) and many eggs have been collected since m oleander at Hickam Air Force Base. To date, infestations have n found on Oahu only at Hickam Air Force Base, Pearl Harbor, l in roadside oleander plantings along Nimitz Highway outside kam Air Force Base and Pearl Harbor. Delimiting surveys continue.

ander hawk moth is common throughout Africa and has been corded from many parts of Europe and in Asia to Malaysia. Hosts lude oleander, jasmine, Acokanthera, gardenia, Carissa, wolfia, Vinca, Taberna, Voacagna, mango, and Adenium multiflorum. Oahu, eggs and larvae have been found only on oleander. No ensive survey of other possible hosts has been made. Available erature indicates there are 3-4 generations per year in the pics and Subtropics. Large numbers (overmultiplication) have n reported from South Africa and Egypt. (Shiroma et al.).

y adult specimens of a PHALONIID MOTH (Phalonia sp.) collected ce February 1974. Specimens common in light trap samples from y areas on Oahu. Species probably introduced from North America. vae of Phaloniidae are web spinners and borers, and most species age herbaceous plants. Moths are small with wing span of about -half inch. Determined by D.R. Davis. (Beardsley).

cellaneous Insects - Light populations of a REDUVIID BUG cocepalus pacificus) found in pasture at Hana, Maui, August 4, 74, by N. Miyahira. This is first record of establishment on ui. This reduviid first found at Waikiki, Oahu, in September 1968, l recorded from Hilo, Hawaii Island, in January 1973. (Miyahira, asaki).

eficial Insects - Recent recovery data indicate a BRACONID WASP anteles erionotae), a larval parasite of Erionota thrax (banana pper), is complimenting an ENCYRTID WASP (Ooencyrtus erionotae), egg parasite of E. thrax, in control of this banana pest. E. ax larvae collected at Waimanalo and from two sites at Pearl y, Oahu, were held for emergence of A. erionotae. Parasitism ged from 13 percent at Waimanalo to 75 percent at one site at rl City. (Kumashiro, Murai).

DETECTION

New United States Repord - OLEANDER HAWK MOTH (Deilephila nerii) HAWAII - Oahu Island. (p. 803).

New State Records - EUROPEAN ALFALFA BEETLE (Subcoccinella vigintiquatuorpunctata) - NEW YORK - Tioga County. (p. 799). A PHALONIID MOTH (Phalonia sp.) - HAWAII - Oahu Island. (p. 803). PIGEON FLY (Pseudolynchia canariensis) - INDIANA - St. Joseph County. (p. 802).

New County Records - EUROPEAN CORN BORER (Ostrinia nubilalis) KANSAS - Clark (p. 797). FACE FLY (Musca autumnalis) KENTUCKY - Campbell, Kenton, Gallatin (p. 802). A FLEA BEETLE (Epitrix similaris) CALIFORNIA - Shasta (p. 801). OLDHOUSE BORER (Hylotrupes bajulus) SOUTH CAROLINA - Florence (p. 802). PIPEVINE SWALLOWTAIL (Battus philenor) WEST VIRGINIA - Ritchie (p. 801). A REDUVIID BUG (Oncocephalus pacificus) HAWAII - Maui Island (p. 803). SOUTHWESTERN CORN BORER (Diatrea grandiosella) MISSOURI - Ste. Genevieve (p. 797). SOUTHERN CHINCH BUG (Blissus insularis) CALIFORNIA - Sonoma (p. 799). SPINY OAKWORM (Anisota stigma) WEST VIRGINIA - Roane (p. 801). SPOTTED ALFALFA APHID (Therioaphis maculata) NORTH DAKOTA - Wells, Sheridan, Pierce, McHenry, Ward, Mountrail, Williams, Divide, McLean, Foster (p. 797). VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) SOUTH CAROLINA - Bamberg (p. 800). WEST INDIAN SUGARCANE ROOT BORER (Diaprepes abbreviatus) FLORIDA - Broward (p. 803).

CORRECTIONS

CEIR 24(38):762 - Fruits and Ornamentals - Pertaining to distribution of Anua indiscriminata on Oahu, last line of paragraph should read: "... reported from Salt Lake, Kahala, and Manoa."

CEIR 24(40):784 - TURF, PASTURE, RANGELAND - VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - FLORIDA - should read A GRASS WEBWORM (Herpetogramma phaeopteralis) - FLORIDA. (PPQ).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARIZONA																								
Mesa 9/23-29			BL	14		20				36						5		35		3950		171	118	
FLORIDA																								
Gainesville 9/27-10/3			BL	4	1			25	6	3									5	2	5	3		
KANSAS																								
Garden City 10/3			BL	16		12	1											1	7					
Manhattan 10/1			BL	2		12				1									1		4			
MISSISSIPPI																								
Stoneville 9/27-10/3	42-85	0.62	2BL	72	4			774	538	5217								1	853	53	144	552	802	
NEW HAMPSHIRE																								
Lee 9/30			BL	1																				
OREGON (Counties)																								
Linn 9/26-10/1			BL	8														4						
Marion 9/26-10/1			3BL	2														3						
PENNSYLVANIA (Districts)																								
North West 9/19-27			BL															12	1					
South East 9/19-27			BL	5						2							1	2	8			10		
TENNESSEE (Counties)																								
Haywood 9/30-10/4			BL	2					1	26							5		3	2	4	4	2	
Madison 9/30-10/4			BL	1						5									2		4	6	3	
WISCONSIN																								
Hancock 9/12-10/3			2BL	2						2									4					
Mazomanie 9/12-10/3			BL	4						1							4		7					

Weather of the week continued from page 796.

Syracuse, New York, measured one inch of snow during the morning. In the West, a cold front triggered showers and thunderstorms in the Plateau region. Nearly 0.50 inch of rain fell at Las Vegas, Nevada. Friday, a surge of cold air invaded the central Plains. Ahead of the colder air, scattered showers and thunderstorms spread from eastern Minnesota through northeast Missouri into northeast Oklahoma. Showers and thundershowers occurred Saturday evening from eastern South Dakota into Wisconsin and southward over Iowa and extreme northern Missouri. Along and ahead of the cold front, scattered thundershowers were triggered from southeast New Mexico into Kansas. Sunday, light showers and thundershowers occurred along a cold front that stretched from Upper Michigan to the Oklahoma Panhandle.

TEMPERATURE: Most of the Nation experienced below normal temperatures last week. Many cities in the Eastern United States reported record low temperatures for this early in the fall. The southern tip of Florida, the Southwestern United States, and central California reported temperatures near normal or above. Monday, early morning temperatures dropped to a low of 12 degrees at Bismarck, North Dakota, with temperatures below 30 degrees over most of Nebraska and North and South Dakota. North Platte, Nebraska, set a new record low with a reading of 22 degrees. On Tuesday, invading cold air sent temperatures plummeting into the 20's and 30's from the north and central Plains to New England. Record lows included St. Cloud, Minnesota, 22 degrees; Sioux Falls, South Dakota, 23 degrees; Omaha, Nebraska, 29 degrees; Cincinnati, Ohio, 34 degrees; and Providence, Rhode Island, 34 degrees. Wednesday, a massive High pressure marked the center of cold air and brought record cold to the upper Midwest. A wintery cold 11 degrees froze St. Cloud, Minnesota, and Houghton Lake, Michigan. Nearly all stations in Iowa set records with temperature in the teens and 20's. The large High pressure area centered over the Ohio Valley pumped cold air into the Eastern United States and whipped high winds across the Plains on Thursday. Atlantic City, New Jersey; Richmond, Virginia; Charleston, West Virginia; and Louisville, Kentucky, all reported temperatures 32 degrees or colder. Record-low temperatures were recorded at many eastern cities. Friday, record-breaking cold temperatures were recorded from New York State to central Florida. Midday temperatures held in the thirties and forties across a large section of the Nation east of the Mississippi River and from Canada to the gulf. Unseasonable cool temperatures were reported in the Eastern United States again on Saturday. Record lows were set at Tampa, Florida, 55 degrees; Macon, Georgia, 37 degrees; Wilmington, North Carolina, 39 degrees; Atlanta, Georgia, 42 degrees; Raleigh, North Carolina, 32 degrees; Augusta, Georgia, 41 degrees; and Mobile, Alabama, 47 degrees. Sunday morning, temperatures in the Eastern United States, except for Florida, were mostly in the 40's while a few spots in the Appalachians dipped into the 30's.

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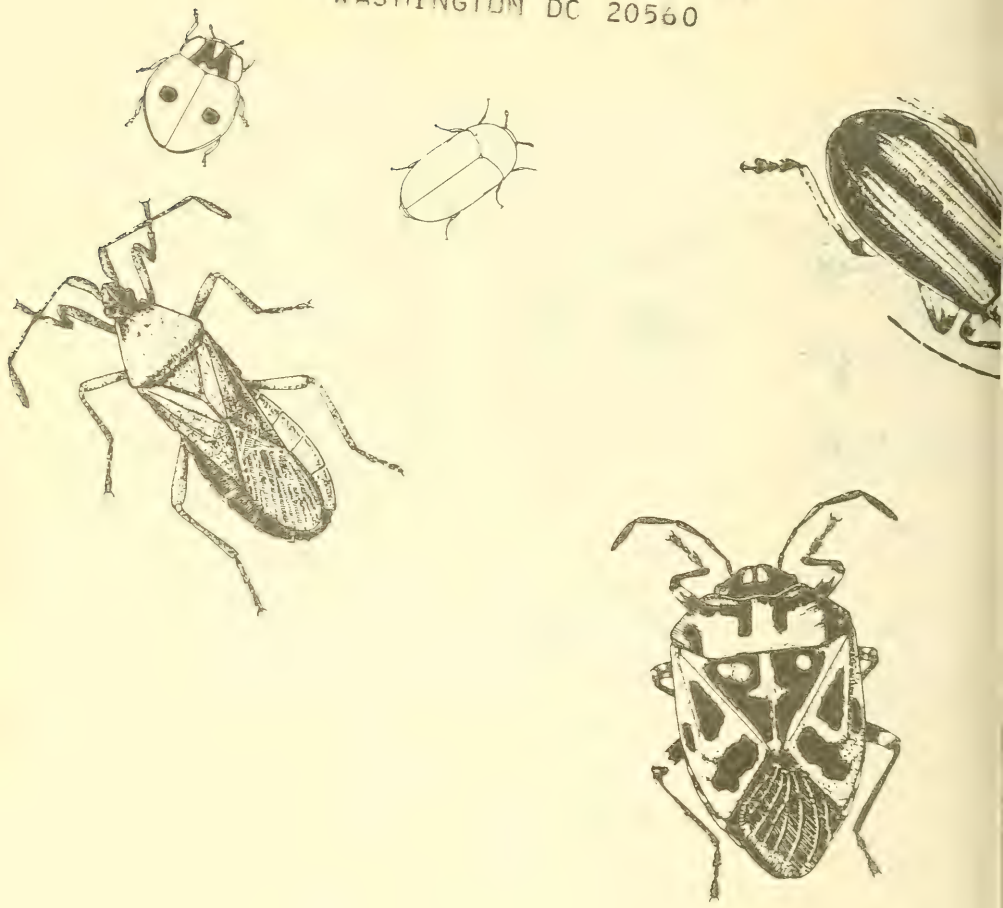

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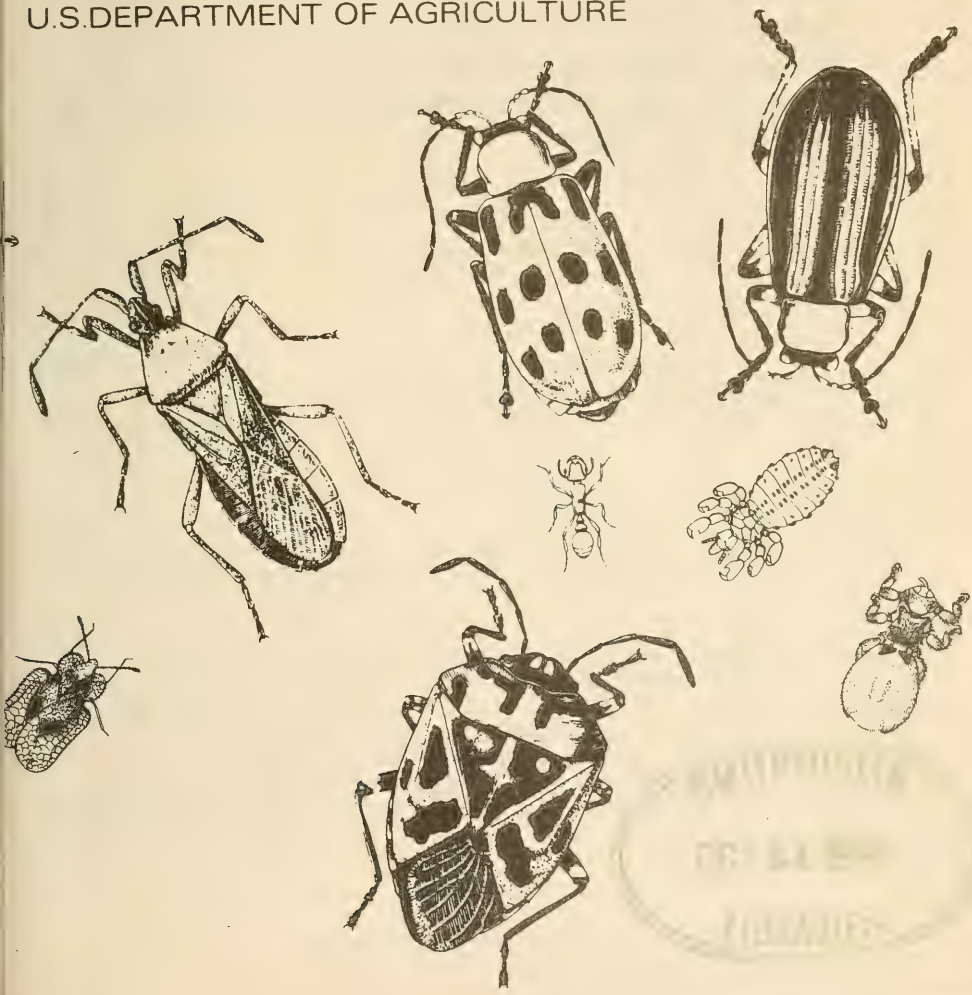

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Animal and Plant Health Inspection Service
United States Department of Agriculture
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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

SOD WEBWORM moth activity ceased in most rangeland areas of South Dakota, no larvae or evidence of damage found. (p. 810).

HOUSE FLY building up around poultry houses and cattle feeding areas in south-central Texas. (p. 813).

Detection

- Established infestation of a WEEVIL not known to occur in the United States reported in Maryland. Pest infested orchids, but infestation eliminated. (p. 812).

New State records include a LACE BUG in Ohio (p. 812) and a WEEVIL in Michigan (p. 814).

For new county and island records see page 815.

Special Reports

Novelsis aequalis (Sharp) (Coleoptera: Dermestidae), A Potential Household Insect in the Eastern United States. (pp. 818-820).

Reports in this issue are for week ending October 11 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING OCTOBER 14

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Most of the Nation experienced seasonal fall weather last week. While most of the Western U.S. reported temperatures near normal, the entire area from the central Plains eastward recorded temperatures colder than normal. Greatest departures occurred in Michigan and New England where the average temperatur was 6 to 8 degrees below normal. Scattered, light precipitation fell across many sections of the country last week. Light precipitation fell throughout most of the Rocky Mountains adding much needed moisture to those areas. Isolated, heavy amounts were reported at Winslow, Arizona, 2.20 inches and Denver, Colorado, 1.10 inches. Elsewhere, precipitation fell from west-central Texas northeastward to Lake Michigan. Many Southern and Southeastern States, except for eastern and southern portions of Florida, reported little or no precipitation.

PRECIPITATION: Some moderate rain fell last week from western Kansas to central Illinois where 1 to 2 inches were recorded. Light amounts of precipitation fell along the Pacific northwestern coast with traces recorded in the northwest mountains. A Low center in the Atlantic caused precipitation in eastern Florida and around Cape Hatteras, North Carolina. Cape Hatteras had 5.40 inches. Monday, cloudy skies and scattered showers prevailed along a cold front from the lower Great Lakes into central Texas. Spotty areas of precipitation marked the Nation's weather on Tuesday. Scattered showers occurred in northern portions of California and Nevada, a few showers in Arkansas, and some rain and drizzle in Upper Michigan and northeast Minnesota. Wednesday, showers and thundershowers were scattered through southern Florida, the southern high Plains, the Rocky Mountain region, and the northern Sierras. Weather of the week continued on page 821.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - SOUTH CAROLINA - Larvae collected from sorghum and corn in Newberry County August 22, 1974, by C.A. Thomas. Determined by C.A. Thomas. This is a new county record. (McCaskill).

ASTER LEAFHOPPER (Macrosteles fascifrons) - OKLAHOMA - Moderate in most wheatfields checked in Caddo and Washita Counties. (Okla. Coop. Sur.).

CORN EARWORM (Heliothis zea) - OKLAHOMA - Ranged up to 10 per 30 row feet in soybeans in Tulsa County. Light in Muskogee and Wagoner Counties. (Okla. Coop. Sur.). TEXAS - Infested green bean fields in Uvalde County area. (Stewart). SOUTH CAROLINA - Survey conducted during June 1974 in Coastal Plain counties showed this pest was major defoliator of seedling corn. Of 7,000 corn plants examined in 28 counties, one percent received foliage damage by H. zea and 0.6 percent damaged by Diatraea crambidoides (southern cornstalk borer). Smaller percentages of plants infested would show severe damage. (Hunt et al.).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Scattered light infestations present in early planted wheat checked in Washita County. (Okla. Coop. Sur.). SOUTH DAKOTA - Field surveys continued to reveal trace populations on wheat in south-central areas. (Walgenbach).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - ILLINOIS - Preliminary results of incompleted fall survey indicate populations in general to be much lighter than in 1973, particularly in northern area. (Ill. Ins. Rpt.). NEBRASKA - Fall surveys complete, 25 fields surveyed in each of 5 major corn-producing districts. Population increased sharply in northeast district and decreased sharply in southeast district. Slight increases noted in east, south, and central districts. (Koinzan et al.). SOUTH DAKOTA - Fall abundance survey showed erratic infestations of 10-65 percent. Ear droppage and stalk breakage ranged up to 30 percent in several cornfields. (Walgenbach). CALIFORNIA - Extensive trapping and visual survey in 100-square-mile area at Fresno, Fresno County, negative during 1974 season. This is area where single questionable larva collected in 1973. Traps operated April through August along with visual survey during growing season and at harvest. All results negative for any form of this corn pest. (Cal. Coop. Rpt.).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - ALABAMA - Growers in Morgan County reported very heavy lodging of stalks prior to harvest on several thousand acres of corn. Most of lodged corn will be lost due to inability of machines to gather it. (Rutledge).

CORN ROOTWORMS (Diabrotica spp.) - SOUTH DAKOTA - Several instances of severe damage on first-year corn observed week ending October 4. (Walgenbach).

CHINCH BUG (Blissus leucopterus leucopterus) - NEBRASKA - Adult and nymphs present in cornfields checked in Gage, Jefferson, Johnson, and Pawnee Counties. Ranged 0-33 (average 4) per plant in 20 fields checked. (Koinzan).

SORGHUM MIDGE (Contarina sorghicola) - ALABAMA - Larvae damaged several fields of grain sorghum in Houston County. (McQueen).

BANKS GRASS MITE (Oligonychus pratensis) - ARIZONA - Infested milo in Cochise area of Cochise County. (Ariz. Coop. Sur.).

SMALL GRAINS

HESSIAN FLY (Mayetiola destructor) - OKLAHOMA - Larvae very hea 1-10 per plant on 90 percent of plants, in 250 acres of wheat i Rogers County. About one-third of larvae changed to "flaxseed" stage for overwintering. (Okla. Coop. Sur.).

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Averaged abo one per row foot in scattered early planted wheat in Caddo and Washita Counties. (Okla. Coop. Sur.).

TURF, PASTURES, RANGELAND

SOD WEBWORMS (Crambus spp.) - SOUTH DAKOTA - Moth activity cease in most rangeland areas by week ending October 4. No larvae or evidence of damage found. Blind series of treatments established at Antelope Experiment Station. (Walgenbach).

CHINCH BUG (Blissus leucopterus leucopterus) - TEXAS - Activity reported in several counties. Damage to St. Augustine grass lawns extensive in some south-central areas. (Cole).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - OKLAHOMA - Adults ranged 0.5-1 per 10 sweeps in alfalfa checked in Washita and Caddo Counties. (Okla. Coop. Sur.). ARKANSAS - Survey negative in Washington County alfalfa. (Boyer). MISSOURI - Adults light in all alfalfa checked in west-central area. Ranged 2-13 per 10 sweeps. (Munson KENTUCKY - In Fayette County, eggs averaged 2.8, 12.3, 4.2, and 1.2 per square foot in various alfalfa fields. In Barren County, eggs averaged 1.2 per square foot. (Barnett, Parr).

PEA APHID (Acyrthosiphon pisum) - ARKANSAS - Increased in legume in northwest area but counts at relatively low level; ranged 100-200 in 100 sweeps. (Boyer). OKLAHOMA - Averaged 170 per 10 sweeps in alfalfa in Caddo County. (Okla. Coop. Sur.). NEW MEXICO - Ranged 30-50 per 25 sweeps in some alfalfa near Roswell Chaves County. (N.M. Coop. Rpt.).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA Averaged 30 per 10 sweeps in alfalfa in Caddo County. Ranged 2-2 per 10 sweeps in Wagoner and Muskogee Counties. (Okla. Coop. Sur.

OYBEANS

OUTHERN GREEN STINK BUG (Nezara viridula) - ALABAMA - Several housand acres treated for N. viridula and Euschistus servus brown stink bug). (Sellers, Casaday).

REEN STINK BUG (Acrosternum hilare) - OKLAHOMA - Nymphs ranged p to 15 per 30 row feet in Tulsa County. Moderate in Wagoner nd Muskogee Counties. (Okla. Coop. Sur.).

ELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - MISSISSIPPI -)ccasional larvae fed on soybeans in Monroe and Lee Counties. ecent frost slowed activity. (Robinson).

PEANUTS

OWPEA CURCULIO (Chalcodermus aeneus) - SOUTH CAROLINA - Collected rom peanuts and peas in Fairfield County August 9, 1974, by .H. Lynn. Determined by C.A. Thomas. This is a new county ecord. (McCaskill).

COTTON

OLL WEEVIL (Anthonomus grandis) - ALABAMA - Further development nd feeding by developing weevils in 200,000+ acres in northern rea largely stopped by recent early freezes and frost. This arly cold condition should considerably reduce number of weevils ntering hibernation. (McQueen et al.). OKLAHOMA - Adults still eavy in cotton fields in Caddo County. Larvae found in green olls in some fields. Thirty adults taken in 32 pheromone traps in Muskogee County. (Okla. Coop. Sur.).

BOLLWORMS (Heliothis spp.) - ALABAMA - Further development and larval feeding in 200,000+ acres in northern area largely stopped by recent freezes and frost. This early season development should reduce considerably the number of larvae that would pupate and overwinter in soil. (McQueen et al.).

COTTON LEAFPERFORATOR (Bucculatrix thurberiella) - ARIZONA - Infestation light on previously treated cotton at Safford, Graham County. (Ariz. Coop. Sur.).

GENERAL VEGETABLES

WHITE GRUBS (Phyllophaga spp.) - TEXAS - Larvae very heavy in untreated beet and spinach fields in Zavala County. (Stewart).

DECIDUOUS FRUITS AND NUTS

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Infestations ranged up to 90 percent of nuts in pecan orchards checked in Payne County. Some orchards previously treated. (Okla. Coop. Sur.).

WALNUT CATERPILLAR (Datana integerrima) - OKLAHOMA - Scattered infestations of half-grown larvae found on pecan trees in Payne County. (Okla. Coop. Sur.).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Full-grown larvae beginning to emerge from infested nuts in Love County. (Okla. Coop. Sur.).

TWIG GIRDLER (Oncideres cingulata) - OKLAHOMA - Caused much damage to young pecan and pear trees in Marshall County. (Okla. Coop. Sur.).

SMALL FRUITS

GRAPE PHYLLOXERA (Phylloxera vitifoliae) - CALIFORNIA - Aerial form taken from leaves of wild grapevines in Grapevine Canyon near Inyokern, Kern County, September 25, 1974, by B. Easley. Determined by T. Kono. Confirmed by R.C. Dickson. Leaves heavily galled. Inyokern located in high desert area and not associated with grape-growing areas. This probably first established record of aerial form in State. Root infesting form previously noted, records go back 40 years. (Cal. Coop. Rpt.).

ORNAMENTALS

A WEEVIL (Orchidophilus sp.) - MARYLAND - Larvae and adults infested orchids (Miltonia sp. and Paphiopedilum sp.) in greenhouse at Kennsington, Montgomery County. Specimens submitted October 10, 1973, determined as Orchidophilus sp. by R.E. Warner and D.M. Anderson. This genus is not known to occur in the United States. Arrangements were made for survey of greenhouses where numerous specimens were found in one greenhouse. Only 2 genera of orchids, Miltonia and Paphiopedilum, showed signs of feeding and infestation. Treatment program initiated. Monthly inspections were conducted to monitor treatment program and to continue inspection for specimens. Last live specimen found March 12, 1974. Inspections continued through July 14, 1974, without detection of additional specimens. Greenhouse personnel returned to own control program. Infestation believed to have originated with shipment of orchids from Philippine Islands. (Lightfield).

A LACE BUG (Stephanitis takeyai) - OHIO - Heavily infested about 30 Pieris japonica plants in nursery at Canton, Stark County. Specimens collected September 25, 1972, by G.M. Kelly. Recently determined by W.K. Roach. Confirmed by D. Dunbar. This is a new State record. Since that date, species has been collected from P. japonica plants in following counties: Columbiana, Lake, Geauga, Clermont, Hamilton, Summit, Portage, Ashtabula, Mahoning Cuyahoga, Trumbull, and Wayne. Determined by W.K. Roach. These are new county records, but collection data no longer available. (Roach).

FOREST AND SHADE TREES

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - ALABAMA - Three separate very heavy emerging broods in Lee County killed about 200 pine trees during past 21 days. (McQueen).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - NEW MEXICO - Continued to cause heavy damage to pinyon pines in Santa Fe, Santa Fe County. This is unusual due to late season activity. (N.M. Coop. Rpt.). WASHINGTON - Infested spruce at Dalkena, Pend Oreille County. (Retan).

ELM LEAF BEETLE (Pyrrhalta luteola) - CALIFORNIA - Adults flying by thousands in core area of Sacramento, Sacramento County, where many elms completely defoliated. This is probably fourth generation of season. The "drill and inject" method of control held populations down until first week of September when material was dissipated in trees. Dooryard trees kept infestations active and allowed significant buildup. Most spraying still in progress but control results unsatisfactory. Favorable weather prolonged epidemic. (Cal. Coop. Rpt.).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - KENTUCKY - Single specimen taken in oak woods in Meade County August 26, 1974, by D.E. Barnett. Determined by D.E. Barnett. Confirmed by R.A. Scheibner. This is a new county record. (Barnett).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 324 cases reported from continental U.S. during period September 29-October 4 as follows: Texas 320, New Mexico 2, Arizona 1, California 1. Total of 352 cases confirmed from Mexico. Number of sterile flies released in U.S. This period totaled 146,203,800 as follows: Texas 127,422,600; New Mexico 5,623,200; Arizona 11,988,000; California 360,000; Oklahoma 810,000. Total of 58,404,600 sterile flies released in Mexico. (Anim. Health).

HORN FLY (Haematobia irritans) - KENTUCKY - Ranged 75-100 per animal in Fayette County. (Barnett, Herald). MISSISSIPPI - Adults still active on beef and dairy cattle in Oktibbeha County; averaged 75+ per animal. Averaged 25 per animal in Prentiss, Tishomingo, and Alcorn Counties. (Robinson). TEXAS - Heavy on livestock in Gonzales County. (Cole). OKLAHOMA - Averaged 800 per head on cows and 2,300 per head on bulls in Payne County. Moderate in Comanche County. (Okla. Coop. Sur.).

FACE FLY (Musca autumnalis) - KENTUCKY - Adults collected September 7, 1974, by D.E. Barnett in Pendleton and Grant Counties near cattle. Determined by D.E. Barnett. Confirmed by F.W. Knapp. These are new county records. Averaged 5 per animal in Fayette County. (Barnett, Herald).

HOUSE FLY (Musca domestica) - TEXAS - Populations building up around poultry houses and cattle feeding areas in south-central area. (Cole). OKLAHOMA - Averaged 14 per Scudder grid in untreated barns in Payne County. Migrating into homes in Payne and Comanche Counties. (Okla. Coop. Sur.).

HORSE BOT FLY (Gastrophilus intestinalis) - MISSISSIPPI - Adults active, laying eggs on horses in Oktibbeha County. (Combs). CALIFORNIA - Unusually prevalent in Siskiyou County this fall. Legs of horses heavily covered with eggs. (Cal. Coop. Rpt.).

EAR TICK (Otobius megnini) - OKLAHOMA - Very heavy in ears of herd of calves in Comanche County. (Okla. Coop. Sur.).

GULF COAST TICK (Amblyomma maculatum) - TEXAS - Active in lower gulf coast area. Light infestations also noted on cattle in Medina County. (Cole, Stewart).

NORTHERN FOWL MITE (Ornithonyssus sylviarum) - OKLAHOMA - Heavy on flock of 7,500 caged laying hens in Osage County. (Okla. Coop. Sur.).

STORED PRODUCTS

A WEEVIL (Cleonus piger) - MICHIGAN - Adults numerous in bin of recently harvested oats near Marlette, Sanilac County. Collected August 23, 1974, by R. Wheeler. Determined by R.L. Fischer. This is a new State record. Also reported in load of oats delivered to local grain elevator at about same time, but not yet confirmed by determination of specimens. Examination of other fields in area failed to disclose additional specimens. (Ruppel).

CIGARETTE BEETLE (Lasioderma serricorne) - ARIZONA - Heavy in dried artichoke flowers used in dried flower arrangements. Many thousands of dollars invested in these infested flowers. Fumigants applied at Phoenix area floral shop in Maricopa County. (Ariz. Coop. Sur.).

BENEFICIAL INSECTS

HONEY BEE (Apis millifera) - NORTH DAKOTA - Commercial apiaries (300+ colonies each) produced 5,550,000 pounds of honey during 1974. This is an 18-percent decrease from 1973 with lower yields more than offsetting increase in number of colonies. Total of 74,000 colonies was increase of 9 percent from year earlier and yield per colony at 75 pounds was 25-percent decrease from 1973. This lowered production due to cool, wet weather early in season followed by dry, hot conditions over State during latter part of season. Some scattered areas of precipitation were received during hot, dry summer but were of limited benefit to flowering plants vital to honey production. (N.D. Crop and Livestock Rpt. Ser.).

A FLEA BEETLE (Longitarsus jacobaeae) - OREGON - Checks for adult activity at 3 release sites made. Extensive sweeping at Lane County site revealed no beetles and no evidence of adult feeding. Beetles liberated here in 1971 and none recovered to date indicating failure to establish. Investigation of other 1971 site in Tillamook burn, east of Tillamook, Tillamook County, revealed L. jacobaeae established. Several adults swept from tansy rosettes and others observed on foliage of plants after careful examination. Beetles generally restricted to original release site and moderate feeding evident only on scattered plants. This is first establishment of L. jacobaeae in Tillamook County. In Marion County, 10 sweeps netted only single adult at 1972 release site. None found at 1973 release area. Heavy trampling of these areas by cattle has reduced tansy population reducing possibility of buildup of L. jacobaeae. (Westcott, Penrose).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - MONTANA - Moving into winter wheat in Valley and Phillips Counties. (Pratt). OREGON - Rangeland species, primarily Camnula pellucida and Oedaleonotus enigma, found to be economic on 15,840 acres of eastern area rangelands during fall survey as follows by county: Wasco 640; Baker 5,200; Malheur 6,200; Wallowa 3,200; and Umatilla 600. (Goeden et al.).

MORMON CRICKET (Anabrus simplex) - OREGON - Infested acreage in Wallowa County revised upwards from that reported earlier this year and now estimated at about 4,000 acres. (Goeden et al.).

ORIENTAL FRUIT FLY (Dacus dorsalis) - CALIFORNIA - Total of 255 adults captured at San Diego, San Diego County, since first fly taken September 6, 1974. One adult female taken to date; however, there is evidence of more than one female in area. Nearly 225 pounds of host fruit destroyed to reduce forthcoming next larval generation. Larvae have been taken in lemon, Catalina cherry, peach, orange, and Kaffirplum. Male "annihilation" treatment area encompasses about 60 square miles while female "annihilation" treatment area includes 9 square miles. In Los Angeles County, single male taken in Steiner trap September 17, 1974. Current Panorama City find being delimited. Compliment of 314 traps of projected total of 360 traps checked twice with negative findings. Projected male "annihilation" treatment scheduled to begin October 14. (Cal. Coop. Rpt.).

PINK BOLLWORM (Pectinophora gossypiella) - ARKANSAS - Recent determinations of moths collected in sex-lure traps positive for Crittenden and Greene Counties. This makes total of 20 counties in which moths collected in 1974. (Shotts).

WESTERN GRAPELEAF SKELETONIZER (Harrisina brillians) - CALIFORNIA - New Infestation detected at Visalia, Tulare County, October 7, 1974, by B. Feltz. Determined by R. Somerby. This is a new county record. Treatments initiated October 10. Currently, there are 25 city blocks involved. (Cal. Coop. Rpt.).

A WHITEFRINGED BEETLE (Graphognathus leucoloma striatus) - ARKANSAS - Adult collected from flower bed of residence in Antioch, White County, August 12, 1974, by R. Hefner. Determined by V.H. Owens. Confirmed by R.E. Warner. This is a new county record. (Boyer).

DETECTION

New United States Record - A WEEVIL (Orchidophilus sp.) - MARYLAND - Montgomery County. (p. 812).

New State Records - A LACE BUG (Stephanitis takeyai) - OHIO - Stark County. (p. 812). A WEEVIL (Cleonus piger) - MICHIGAN - Sanilac County. (p. 814).

New County and Island Records - ARMYWORM (Pseudaletia unipuncta) SOUTH CAROLINA - Newberry (p. 809). ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) KENTUCKY - Meade (p. 813). COWPEA CURCULIO (Chalcodermus aeneus) SOUTH CAROLINA - Fairfield (p. 811). FACE FLY (Musca autumnalis) KENTUCKY - Pendleton, Grant (p. 813). A LACE BUG (Stephanitis takeyai) OHIO - Columbiana, Lake, Geauga, Clermont, Hamilton, Summit, Portage, Ashtabula, Mahoning, Cuyahoga, Trumbull, Wayne (p. 812). WESTERN GRAPELEAF SKELETONIZER (Harrisinia brillians) CALIFORNIA - Tulare (p. 815). A SKIPPER (Hylephila phyleus) HAWAII - Hawaii Island (p. 817). A WHITEFRINGED BEETLE (Graphognathus leucoloma striatus) ARKANSAS - White (p. 815).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	Helicoverpa zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Mamestra quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARIZONA																								
Mesa 9/30-10/6			BL	3		7				14						1		10		1653		49		
FLORIDA																								
Gainesville 10/4-10			BL	11				21	7	1								1	2	2	11			
KENTUCKY																								
Lexington 10/5-11			BL															2			4			
MISSISSIPPI																								
Stoneville 10/4-10	45-78		2BL	9				64	20	462								17	68	6	4	34		
OHIO																								
Wooster 10/5-11			3BL	18						7							12	11		10	2	1		

Fruits and Ornamentals - Delimiting surveys conducted to map spread of OLEANDER HAWK MOTH (Deilephila nerii). To date, infestations discovered throughout Hickam Air Force Base and Pearl Harbor Naval Station on Oahu. Infestations located at Halawa, Aiea, and McGrew Point. All infestations found on oleander; other hosts only casually surveyed. Larval infestations at all locations ranged light to moderate. To date, only one adult has been caught (CEIR 24(41):803). Blacklight traps within infestation area serviced regularly, but no adults caught. It is estimated that oleander hawk moth has been on Oahu for several months. Distribution and presence of young and full-grown larvae indicate pest already has probably undergone 2-3 generations. (Shiroma et al.). Heavyy infestations of ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) noted on citrus and rose at several sites in Kapahulu, Oahu. Certain homeowners requested to refrain from applying insecticides because of parasite releases in area. Light infestations found at several locations within area where insecticides being applied. Surveys to document spread of this pest will be conducted as time permits; results of surveys will be reported. Efforts to obtain and establish parasites, Amitis hesperidum (a platygasterid wasp) and Prospaltella smithi (a eulophid wasp), continuing. To date, three releases of A. hesperidum and one of P. smithi made at Kapahulu. No evidence of establishment of either parasite found. (Kahale, Mau). Heavy infestations of an OLEANDER APHID (Aphis nerii) observed on less than 10 percent of oleander terminals at Hickam Air Force Base, Pearl Harbor Naval Station, Halawa, Aiea, Waimalu, Waiau, Ewa Beach, and Iroquois Point, Oahu. There were generally 100+ aphids on each infested terminal. Larvae and adults of 3 lady beetles, Coelophora pupillata, C. inaequalis, and Scymnodes lividigaster, and larvae of Allograpta sp. (a syrphid fly) observed feeding on aphids. In addition, many aphids mummified indicating parasitism by hymenopterous parasites. (Mau).

Turf and Pasture - Many adults of a SKIPPER (Hylephila phyleus), larvae are lawn and turf pests, observed on lawns at Keauhou, Hawaii Island, October 3, 1974. This sighting constitutes a new island record. This skipper first discovered in State on Oahu in September 1970. It is now found only on Oahu and Hawaii Islands. (Ikeda).

Beneficial Insects - Heavy infestations of a GALL FLY (Procecidochares utilis) observed on Maui pamakani (Eupatorium adenophorum) along Mokuleia Forest Reserve trail. Galls produced by plant reaction to larvae of this tephritid fly observed on estimated 95 percent of pamakani stems. This insect has been credited with control of this noxious weed in State. P. utilis introduced from Mexico in 1945. (Fujii).

Novelsis aequalis (Sharp) (Coleoptera: Dermestidae), A Potential Household Insect in the Eastern United States

John M. Kingsolver 1/ and John H. Fales 2/

ABSTRACT - The dermestid, Novelsis aequalis (Sharp), has been taken in several Middle Atlantic States. The occurrence of this insect in the District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia is of special interest since it was known formerly only from Mexico and Texas. These records are given and the little-known habits and life cycle of the species are discussed.

For more than a decade, we have been accumulating records of the occurrence in Eastern States of a species of Dermestidae, Novelsis aequalis (Sharp). The first identification of this species in the East was made by P.J. Spangler from adults reared from larvae collected in a home in the District of Columbia in 1959; subsequently, records from earlier collections in Maryland (1940) and Pennsylvania (old label, no date) have been discovered. Since 1959, 24 separate collections have been made in the District of Columbia, Maryland, Virginia, and West Virginia. Nearly all were found in small numbers in households, and in several cases were associated with the carpet beetles, Attagenus megatoma (F.) (black carpet beetle) and A. elongatulus Casey. Larvae were found on a rug, on a bedspread, in pantry drawers, in a light fixture, in a box of soap powder, and in debris in an attic. Novelsis aequalis is now known from the following localities in the Eastern U.S.: District of Columbia; Maryland - Baltimore, Beltsville, Bethesda, Chevy Chase, College Park, Laurel, Rockville, Silver Spring, University Park; Pennsylvania (no specific locality); Virginia - Alexandria, Arlington; West Virginia - Charles Town. It has been collected every month of the year except December.

Previously, N. aequalis was known only from Mexico, Oklahoma, and Texas. Since other species in the genus Novelsis are known only from Western U.S. and Mexico, the presence of N. aequalis in a fairly restricted portion of the Eastern U.S. in heated buildings presents a rather intriguing case suggesting either a widely disjunct natural distribution, or an introduction with subsequent spread. We suspect that N. aequalis is much more prevalent than is indicated by the distribution. We hope that these notes will help workers to recognize the presence of this species and thus increase our knowledge of its distribution and biology.

Beal (1954 and 1970) has treated both Attagenus and Novelsis for the U.S. and Canada, and the following characteristics for recognition of N. aequalis are extracted from those extensive papers.

1/ Mail address: c/o U.S. National Museum, Washington, D. C. 20560.

2/ Huntingtown, Maryland.

The adult of N. aequalis (Fig. 1) is about 5 mm. long, elongate, flattened, black or dark brown, and has 3 fairly distinct grayish bands on the elytra. The larva (Fig. 2) is 5 to 6 mm. long, elongate, tapered behind, black or very dark brown, and bears a long caudal brush of setae.

Novelsis and Attagenus are the only genera in the subfamily Attageninae. This subfamily is distinguished in the adult stage from others in the Dermestidae by the first segment of the hind tarsus being not more than half as long as the second, whereas the first segment in other subfamilies is nearly as long, or as long as the second. In the larval stages, the Attageninae are recognized by their shape, the elongate body gradually tapering behind from the metathorax, rounded dorsally and flattened ventrally, with a long terminal brush of hairs, and lacking spear-headed body setae and urogomphi.

Novelsis aequalis is the only attagenine found in the Eastern States having a pattern on the elytra composed of 3 interrupted, transverse bands of grayish hairs on a dark background. Attagenus fasciatus (Thunberg) in Florida has a single, subbasal band. All other attagenine species in this area are unicolorous yellowish brown to black. In the larval stages, N. aequalis is the only attagenine in the Eastern States with ornate body setae (Fig. 4) contrasted with smooth-margined setae found on larvae of Attagenus (Fig. 3). Larvae of N. aequalis are much darker than those of species of Attagenus.

The banded pattern of adult N. aequalis may be easily confused with that found in species of Trogoderma, especially T. inclusum LeConte, T. sternale Jayne, T. variabile Ballion, and T. glabrum (Herbst), all found in the Eastern States. Each of these may be distinguished from N. aequalis by the following combination of characters: antennal grooves on underside of pronotum well defined (Fig. 6), prosternum T-shaped, well separated and raised above surrounding parts, intercoxal piece of prosternum narrow but somewhat flattened on face. In contrast, N. aequalis has the combination of: antennal grooves lacking (Fig. 5), prosternum on about the same level with surrounding parts, and intercoxal piece very thin, knifelike. These characteristics will distinguish N. aequalis even if the hind tarsi are missing.

References

Beal, R.S., Jr. 1954. A revision of the species included in the genus Novelsis (Coleoptera: Dermestidae). Trans. Amer. Ent. Soc. 80:73-90.

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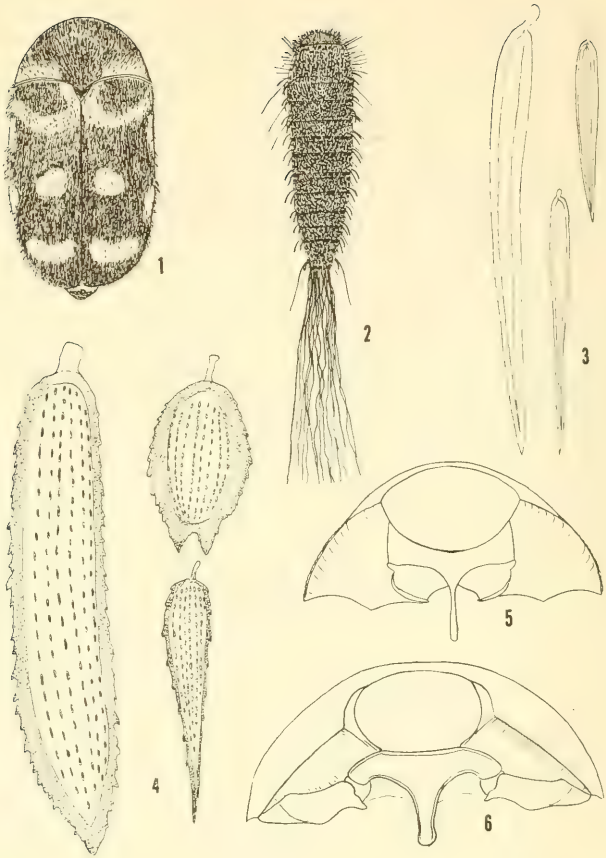
For illustrations see next page.



Legends for Illustrations

Fig. 1, Novelsis aequalis, adult. Fig. 2, same, larva. Fig. 3, body scales, Attagenus sp. Fig. 4, same of N. aequalis larva. Fig. 5, ventral aspect, prothorax of attagenine dermestid adult. Fig. 6, same of Trogoderma sp. adult.

U.S. Dept. Agr., Coop. Econ. Ins. Rpt., 24(41):818-820, 1974.

eather of the week continued from page 808.

hunderstorms were scattered from the southern Rockies to the pper Mississippi Valley on Thursday. Friday, a cold front brought howers and thundershowers into the central Plains and upper ississippi Valley. Scattered showers and thundershowers occurred n New Mexico and the Texas and Oklahoma Panhandles. Around 0.50 nch of rain fell at Clovis, New Mexico, and Amarillo, Texas. aturday, some locally heavy rains were reported over eastern ansas, with 2.94 inches reported at Wilsy, Kansas. Sunday, ain, drizzle, and a few thundershowers continued along and to he north of a cold front which had moved to a line from south-estern Texas through southern Missouri to southern Pennsylvania.

EMPERATURE: Mild weather covered most of the Nation last week. everal areas in the West reported above-normal temperatures. In he western Plains, a small area including portions of South akota and Nebraska averaged 2 to 4 degrees above normal and east-entral Texas was 3 degrees above normal. Further, west-central alifornia and parts of Arizona and Utah were also experiencing emperatures 3 degrees above normal. The Nations eastern third eported temperatures below normal. Monday, a cold High pressure enter over Nebraska dropped readings into the teens and 20's over arts of Minnesota, Iowa, Nebraska, and the Dakotas. Record morning ows for this date were set at Sioux Falls, South Dakota, 17 egrees; Sioux City, Iowa, 23 degrees; and Omaha, Nebraska, 24 egrees. A large High pressure system with centers in southern llinois and along the Rockies held cooler than normal air over uch of the Nation east of the Rockies on Tuesday. Wednesday, a igh pressure area pulled colder air into the Northeast. Many early orning temperatures plummeted into the 30's. Bradford, Pennsylvania. nd Massena, New York, reported 29 degrees. New England was the oolest part of the Nation on Thursday, while the Desert Southwest as the warmest. Maximum temperatures ranged from 41 degrees at oulton, Maine, to 96 degrees at Phoenix, Arizona. The early orning low was 23 degrees at Truckee, California. Friday, cooler ir seeping into the northern Rockies and Plains dropped early orning temperatures into the 40's and 50's. Maximum temperatures n Saturday ranged from 93 degrees at Palm Springs, California, o 41 degrees at Marquette, Michigan. San Francisco, California, nd an unusually warm 87 degrees but it was 45 degrees as far south s Las Vegas, New Mexico. Sunday, a High pressure system over outhern Ontario circulated cooler Canadian air southward over he Great Lakes region dropping temperatures to the 20's and 30's rom the upper Mississippi Valley to western New England. emperatures remained rather mild over the rest of the Nation anging from the 40's through the 60's.

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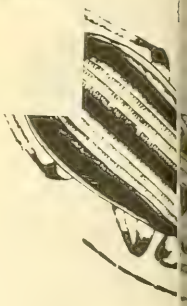

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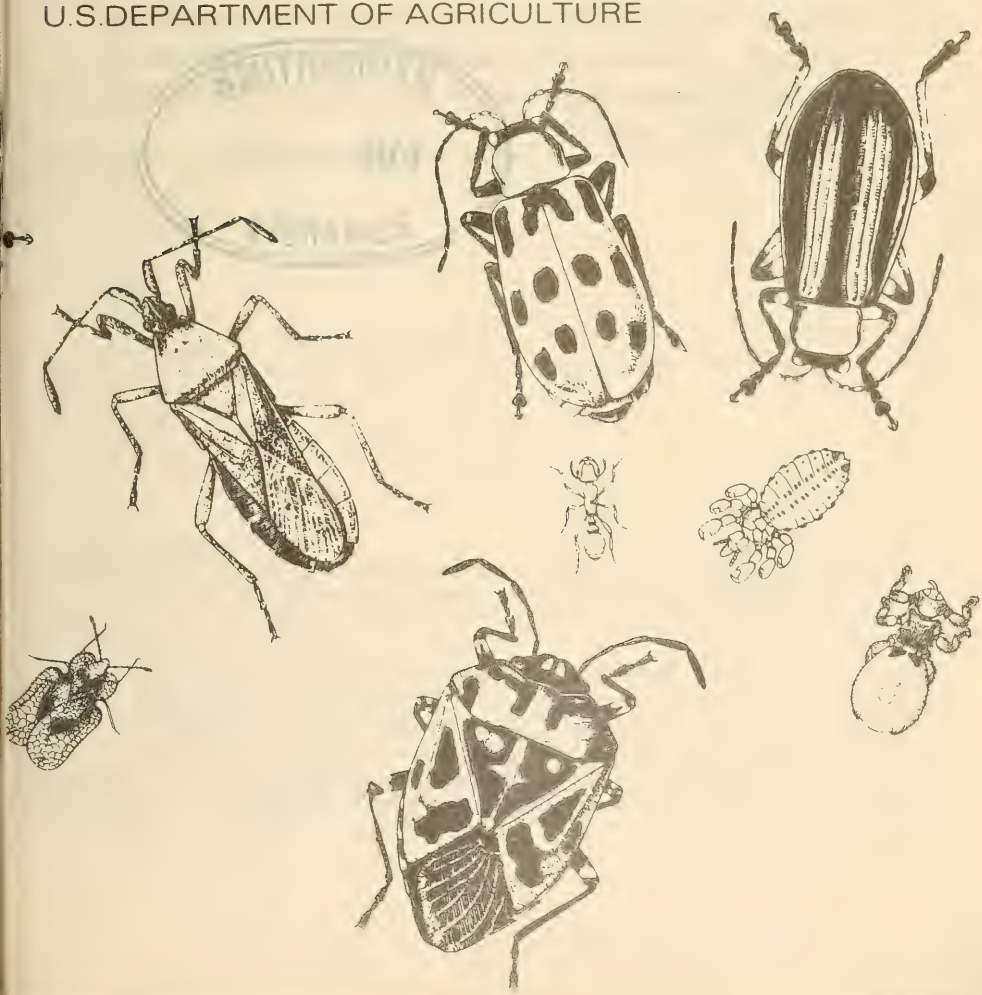

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

CORN EARWORM loss survey in Kansas showed corn kernel loss heaviest in central and south-central districts, lowest in western districts. (p. 825).

GREENBUG populations may develop to economic levels on wheat during November in South Dakota, depending on weather conditions. (p. 825).

Prediction

GRASSHOPPER populations expected to be lighter in Minnesota in 1975. (p. 829).

Detection

- A CHLOROPID FLY, a common Neotropical species that has been implicated in transmission of yaws, reported for first time in U.S. (p. 833).

For new county records see page 831.

Special Report

First Record of *Hippelates flavipes* in the United States (Diptera, Chloropidae). (p. 833).

Reports in this issue are for week ending October 18 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING OCTOBER 21

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Cold Canadian air dominated the weather over the eastern half of the Nation. Surging out of the north-central United States, cold air encompassed all of the country from the central Plains through Texas eastward to the Atlantic. The coldest areas included parts of Wisconsin, Michigan, New York, Vermont, New Hampshire, and Maine where temperatures averaged from 9 to 13 degrees below normal. From the Rockies westward temperatures averaged well above normal. Most of the Nation's rainfall occurred east of a line from west-central Texas to Michigan. Heaviest amounts fell in the western Appalachians of Tennessee, Virginia, and West Virginia totaling nearly 3 inches.

PRECIPITATION: Moderate rains of 1 to 2 inches fell east of a line from west-central Texas to Michigan, mostly early in the week. Rain was associated with a cold front passage. Rainfall was light on the eastern side of the Appalachians and in Piedmont areas. In the West, the Pacific Northwest recorded only light amounts west of the Cascades. The rest of the Western States and the central and northern Great Plains had amounts of less than 0.10 inch. Monday, widespread rains were associated with a cold front stretching from the southern Plains across the lower half of the Mississippi Valley and up the Ohio Valley to the interior of the northern Atlantic Coast States. Tuesday, a cold front extended from New York State to Texas triggering showers from the northern Appalachians and the eastern Great Lakes region to the middle Mississippi Valley. Thundershowers occurred in the lower Mississippi Valley and along the western gulf coast. Both Houston, Texas, and Louisville, Kentucky, reported around 1.30 inches of rain. Rain and drizzle fell from southern New England to the eastern Ohio Valley on Wednesday, while showers and thundershowers rumbled through the Carolinas, Georgia, Alabama, and the Florida Panhandle. Weather of the week continued on page 834.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ASTER LEAFHOPPER (Macrosteles fascifrons) - ARKANSAS - Most predominant species of leafhopper present in wheatfields checked in Benton County. Total numbers collected: 63 M. fascifrons, 2 Graminella nigrifrons (blackfaced leafhopper), one Endria inimica (painted leafhopper), and one Chlorotettix sp. Determinations made by E.P. Rouse. (Boyer). Number of sweeps and acreage included not given. (PPQ).

CORN EARWORM (Heliothis zea) - KANSAS - Statewide loss survey conducted during September and early October in field corn. Fields in 49 of 105 counties in State included. About half of counties in each of 9 crop reporting districts represented. Kernel loss heaviest in central and south-central districts, 5.1 percent and 2.2 percent, respectively, on "all ears basis." Loss lowest in western districts, 0.3-0.7 percent on "all ears basis," generally following 1972 and 1973 pattern. In addition to kernel loss due to feeding by H. zea, some loss due to Spodoptera frugiperda (fall armyworm) particularly in 3 southern districts. Very little kernel loss attributed to feeding by Loxagrotis albicosta (western bean cutworm) found in low numbers in corn throughout most of its known range in State during growing season. (Bell).

GREENBUG (Schizaphis graminum) - SOUTH DAKOTA - No economic infestations noted to date on winter wheat plantings. Specimens found in several western area fields from Sturgis, Meade County, to Wood, Mellette County, to Pierre, Hughes County; no treatments required. Trace populations found in some fields. Economic populations may develop during November depending on weather conditions during next 4 weeks. Winter wheat growers urged to examine fields weekly for increasing populations. (Walgenbach). KANSAS - None to trace found in drilled wheat in Allen, Labette, Neosho, and Cherokee Counties in southeast district. Average counts ranged 0-3 per drill row foot in wheat in Morton, Stanton, Kearney, and Grant Counties in southwest district. None found in drilled wheat in Cloud, Saline, Pawnee, Edwards, or Kiowa Counties. In volunteer wheat, counts averaged about 48 per square foot in one Labette County field. (Bell). OKLAHOMA - Light in wheat in Roger Mills County. (Okla. Coop. Sur.). TEXAS - Light in wheat in Hockley and Motley Counties in High Plains. (McIntyre).

POTATO PSYLLID (Paratrioza cockerelli) - CALIFORNIA - Nymphs and adults infested tomato plantings in Salinas area, Monterey County. (Cal. Coop. Rpt.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - KANSAS - Trace in 10-inch alfalfa in Pottawatomie County. (Bell).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - Fall 1974 loss survey conducted on statewide basis during September and early October. Results showed average percentages of stalks infested and average borers per 100 stalks somewhat below 1973 figures in northeast and east-central districts and somewhat higher than 1973 in all other districts, especially in southeast district. (Bell). SOUTH DAKOTA - Fall abundance survey showed average percent

infested plants by county as follows (number of borers per 100 stalks in parentheses): Union 67 (438), Clay 45 (138), Yankton 33 (88), Bon Homme 32 (100). (Walgenbach). NORTH DAKOTA - Fall infestation survey of European corn borer in 5 southeast district counties showed population decreased again in 1974. Infestations ranged up to 72 (average 15) borers per 100 plants. Infestations averaged 50 borers per 100 plants in these counties in fall 1973. Percent infested plants decreased from 32 in 1973 to 24 in 1974. (Brandvik).

NORTH CAROLINA - Statewide European corn borer fall abundance survey completed in 12 eastern Coastal Plain counties. In these 12 counties, 32.2 percent of stalks observed were infested with average of 37.1 borers and 75.1 cavities per 100 plants. Five fields per county (1,500 plants) observed. (Hunt et al.). TENNESSEE - Immatures collected from cornstalks in Bledsoe County week of October 7, 1974. Collected and determined by Cole, Eisler, and Keener. This is a new county record. (Gordon, Bruer).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - SOUTH CAROLINA - Collected from corn in Dillon County September 19, 1974, by C. Moody. Collected from corn in Chesterfield County October 1, 1974, by V.H. McCaskill. Specimens determined by V.H. McCaskill. These are new county records. (McCaskill).

CORN ROOTWORMS (Diabrotica spp.) - NEBRASKA - Survey conducted to determine damage in 5 crop districts; 5 fields surveyed per county in 5 counties in each district. Damaged fields widely scattered. Plants lodged more than 30 degrees from vertical range 2-80 percent. (Koinzan et al.).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - MISSOURI - Adults collected from sorghum at Nevada, Vernon County, October 16, 1974. Collected and determined by R.E. Munson. This is a new county record. (Munson).

SMALL GRAINS

HESSIAN FLY (Mayetiola destructor) - KANSAS - Percentages of plants infested in early planted sown wheat by county as follows: Morton, none in 8 fields; Stanton, none in 3 fields; Kearny, none in 2 fields; Grant, 0-8 percent in 3 fields; Cloud, none in 2 fields; Saline, none in 3 fields; Pawnee, none in 3 fields; Edwards, 10 percent in one field; and Kiowa, 10 percent in one field. Percentages of plants infested in volunteer wheat by county: Morton, 0-24 in 3 fields; Stanton, 0-4 in 2 fields; Kearny, 8-40 in 2 fields; Grant, 8-48 in 2 fields; and Pawnee, 15 in one field. Large larvae and pupae collected from wheat in Morton, Grant, Stanton, and Kearny Counties, October 16 and 17, 1974. Collected and determined by M.L. Shuman. These are new county records. (Bell).

FALL ARMYWORM (Spodoptera frugiperda) - TEXAS - Infestations appeared in small grain fields throughout Uvalde County area; however, no damaging populations reported to date. Infestations increased throughout south-central area with damaging populations reported in Milam, Brazos, and Wharton Counties. (Stewart, Cole).

FORAGE LEGUMES

PEA APHID (Acyrthosiphon pisum) - NEW MEXICO - Counts still ranged 20-30 per 25 sweeps in alfalfa near Roswell, Chaves County. Cool nights may inhibit parasites, aphid populations should be watched. (N.M. Coop. Rpt.). UTAH - Populations increased in Cache County fields since cooler weather; 25-150 per 10 sweeps noted at Providence. (Knowlton).

TARNISHED PLANT BUG (Lygus lineolaris) - MISSISSIPPI - Adults averaged 5 per 25 sweeps in regrowth crimson clover in Oktibbeha County. (Robinson).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - MISSISSIPPI - Adults averaged 19 per 25 sweeps in regrowth crimson clover in Oktibbeha County. (Robinson).

ALFALFA CATERPILLAR (Colias eurytheme) - NEW MEXICO - Larvae ranged 6-8 per 25 sweeps near Roswell, Chaves County. (N.M. Coop. Rpt.).

ALFALFA WEEVIL (Hypera postica) - MISSOURI - Adults active in all alfalfa checked in west-central area. Ranged 2-18 per 10 sweeps. (Munson).

COTTON

BOLL WEEVIL (Anthonomus grandis) - OKLAHOMA - In 64 pheromone traps in Blair area, Jackson County, 489 weevils collected. (Okla. Coop. Sur.).

BANDEDWING WHITEFLY (Trialeurodes abutilonea) - ALABAMA - Very heavy in 200 acres of cotton at Jones Bluff, Autauga County. (Lemons et al.).

COLE CROPS

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - Moderate in cabbage fields in Uvalde County area; however, adequate control attained in most fields. Infestations reported in commercial mustard and broccoli plantings in Wharton County and home gardens in numerous south-central counties. (Stewart, Cole).

CUCURBITS

MELON APHID (Aphis gossypii) - NEVADA - Heavy on cantaloupe in Moapa Valley, Clark County, causing leaves to dry. (Hoff).

GENERAL VEGETABLES

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Treatments underway for larvae of this pest and Trichoplusia ni (cabbage looper) in Salt River Valley lettuce fields of Maricopa County. (Ariz. Coop. Sur.).

DECIDUOUS FRUITS AND NUTS

FALL WEBWORM (Hyphantria cunea) - TEXAS - Activity much decreased on pecans. Few webs observed throughout south-central area. (Cole).

WALNUT CATERPILLAR (Datana integerrima) - TEXAS - Foliage stripped from unsprayed pecan trees in Wharton County. These trees beginning to show new foliage growth at present. (Cole).

BLACK PECAN APHID (Tinocallis caryaefoliae) - ALABAMA - Heavy on many pecan trees at Dothan, Houston County. Honeydew heavy on falling leaves and becoming nuisance to residents. (Roney).

ORNAMENTALS

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - OREGON - Extended favorable weather prolonged late season activity. Mites severe on variety of evergreen nursery stock in northern Willamette Valley. (Wheeler).

ZIMMERMAN PINE MOTH (Dioryctria zimmermani) - IDAHO - Damaged ornamental pines in Gooding, Gooding County. (Koester).

LESSER BULB FLY (Eumerus tuberculatus) - NEW HAMPSHIRE - Larvae numerous and damaged iris rhizomes at East Kingston, Rockingham County. (Blickle).

FOREST AND SHADE TREES

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - VIRGINIA - Population increases reported in all counties during August, especially along southern edge of epidemic area. (Va. Div. For.). NORTH CAROLINA - Late summer and fall surveys showed that number of beetle spots had doubled in areas surveyed. In one area of State (District 7) 3,000 spots found. (N.C. For. Ser.). GEORGIA - Aerial surveys conducted during August. Situation appeared to be static at high level in northern area, decreasing in Chatham County as result of vigorous suppression program in that county. (Ga. For. Comm.).

ELM LEAF BEETLE (Pyrrhalta luteola) - CALIFORNIA - Beetles still flying, larvae developing in Sacramento and San Joaquin Valley areas. If cold weather delayed, fifth generation may appear. Many elms completely defoliated. Pest damaging on those trees regenerating foliage. (Cal. Coop. Rpt.).

MAN AND ANIMALS

HORN FLY (Haematobia irritans) - OKLAHOMA - Counts per head averaged 600 on yearlings, 800 on cows, and 2,000 on bulls in Payne County, and 300 on cows and 800 on bulls in Muskogee County. Moderate in Comanche County. (Okla. Coop. Sur.).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged 2 per head on dairy cattle checked in Payne County. (Okla. Coop. Sur.).

FACE FLY (Musca autumnalis) - KANSAS - Males collected near livestock in Pawnee, Stafford, Rush, and Hodgeman Counties October 9, 1974, in Ness County September 26, 1974, and in Gove County September 25, 1974, by M.L. Shuman. Determined by M.L. Shuman, confirmed by K.O. Bell. These are new county records. (Bell). KENTUCKY - Averaged 8.2 per animal in Green County during midday. Adults collected June 8, 1974, in Henry and Oldham Counties near cattle by D.E. Barnett. Determined by D.E. Barnett, confirmed by F.W. Knapp. These are new county records. (Barnett).

HOUSE FLY (Musca domestica) - OKLAHOMA - Ranged up to 18 (average 4) per Scudder grid in untreated barns in Payne County. Heavy in barns and moderate in homes and business buildings in Muskogee County. (Okla. Coop. Sur.).

WESTERN BLACK WIDOW SPIDER (Latrodectus hesperus) - UTAH - Specimens noted in cellar at Price, Carbon County. (Knowlton, Anderson).

PUSS CATERPILLAR (Megalopyge opercularis) - SOUTH CAROLINA - Specimen collected in yard in Newberry County October 1, 1974, by H.L. Eason. Determined by C.A. Thomas. This is a new county record. (McCaskill).

HOUSEHOLDS AND STRUCTURES

A POWDERPOST TERMITE (Cryptotermes brevis) - TENNESSEE - Small swarm occurred September 18, 1974, from native cherry dresser in Shelby County home. Quantity of pellets and extent of infestation indicate colony several years old. Specimens collected and determined September 19, 1974, by M. Smith. Owner of furniture recalls that 5-6 years ago dried floral arrangement brought from more southern State; after several weeks portions of floral arrangement observed to be full of holes and breaking up. This indicates pest infested floral arrangement at that time and swarmed; entered unfinished wood inside dresser. Review of literature indicates C. brevis first detected in State in 1952 by Snyder. During calendar year 1973, pest control operator detected 3 infestations in Memphis, Shelby County. After investigations, 2 of these infestations considered interceptions. However, third find was established, as active colony observed in walls and bookcase of infested home; fumigation was necessary to eradicate colony. All collections determined C. brevis by F. Lechleitner. Collection date for established infestation, March 13, 1973. Collected by M. Smith. Although literature unclear, records give impression 1952 find was an established infestation and should be considered first record for State. If not, then March 13, 1973, is first record. (Gordon).

GRASSHOPPERS - MINNESOTA - Fall egg survey completed. Adults heaviest in northwest district but egg pods lightest. Rainfall low in this area in months preceding egg laying period. Hard dry crust formed on soil which probably interfered with oviposition. Egg pods ranged 0-5 (average 0.6) per field for all districts. Melanoplus femurrubrum and M. bivittatus predominant in northwest district. M. femurrubrum and M. sanguinipes predominant in in other districts. Populations expected to be lighter in 1975 (Minn. Pest Rpt.). SOUTH DAKOTA - Economic in southern Butte and northern Lawrence Counties. Moderate in southwestern quarter of State. Scattered areas of potential damage evident throughout West River Counties. (Walgenbach). ARIZONA - Fall adult survey revealed 35,000 acres of infested rangeland on Indian Service Lands. Populations averaged 8+ per square yard on 15,000 acres each on Navajo and San Carlos Indian Reservations and 5,000 acres on Fort Apache Indian Reservation. (Ariz. Coop. Sur.).

HAWAII INSECT REPORT

Fruits and Ornamentals - Foliage damage by CHINESE ROSE BEETLE (Adoretus sinicus) ranged light to severe in 10 acres of grape at Ulupalakua, Maui. Damage light throughout most of planting, severe on younger foliage in certain parts of planting. Light to moderate foliage damage observed in backyard planting of snap beans and eggplant at Waiehu, Maui; about 20-40 percent of leaves showed damage. (Mau). Surveys of banana for BANANA SKIPPER (Erionota thrax) larvae or damage in Waihee and Waiehu areas of Maui negative. Surveys during past 2 months also yielded no infestations. E. thrax discovered on Maui July 1, 1974, at Kahakuloa. All larvae removed from infested trees at that time. Periodic surveys will continue due to possibility banana in uninhabited valley areas may be infested by E. thrax larvae. (Miyahira et al.) Heavy infestations and damage by a FLAT MITE (Brevipalpus phoenicis) observed on papaya at Happy Valley and Kahului, Maui. Damage very noticeable, especially to petioles and on trunks at bases of petioles. (Miyahira).

Man and Animals - Small nest (5-6 inches in diameter) of a VESPID WASP (Vespula vulgaris) discovered early in October at 6,740 feet elevation at Hosmer Grove in Haleakala National Park, Maui. Nest contained immatures, workers, males, and one queen. No queen cells present. This discovery indicates V. vulgaris may be more widespread than originally thought. Hosmer Grove about 4 miles away from infestation sites at Olinda. (Mau).

Beneficial Insects - Larvae of MELASTOMA BORER (Selca brunella) noticeable on flower buds of Melastoma malabathricum (Indian rhododendron). Samples of 100 buds examined from Panaewa, Komohana and Kulani, Hawaii Island, during September. S. brunella infestation averaged 55 percent at these sites. (Yoshioka).

DETECTION

New United States Record - A CHLOROPID FLY (Hippelates flavipes) - ARIZONA - Cochise County. (p. 833).

New County Records - ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) MISSOURI - Vernon (p. 826). EUROPEAN CORN BORER (Ostrinia nubilalis) TENNESSEE - Bledsoe (p. 826). FACE FLY (Musca autumnalis) KANSAS - Pawnee, Stafford, Rush, Hodgeman, Ness, Gove. KENTUCKY - Green, Henry, Oldham (p. 829). HESSIAN FLY (Mayetiola destructor) KANSAS - Morton, Grant, Stanton, Kearney (p. 826). LESSER CORNSTALK BORER (Elasmopalpus lignosellus) SOUTH CAROLINA - Dillon, Chesterfield (p. 826). PUSS CATERPILLAR (Megalopyge opercularis) SOUTH CAROLINA - Newberry (p. 829).

CORRECTIONS

CEIR 24(41):803 - HAWAII INSECT REPORT - Miscellaneous Insects - Line 2 should read (Oncocephalus pacificus) ...

LIGHT TRAP COLLECTIONS

	Temperature °F	Precipitation (inches)	Type of trap (BL blacklight, I w. incandescent, O mercury vapor, other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (salt-marsh caterpillar)	Euxoa auxiliaris (army cutworm)	Parapsia diffusa (wheat head armyworm)	Faltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Mamestra configurata (bertha armyworm)	Mamestra picta (tobacco budworm)	Oxytripla palliatalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellostriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARIZONA																								
Mesa 10/7-13			BL	7		7				31						3		30		538		76	27	
FLORIDA																								
Gainesville 10/11-17			BL	22	3			47	2	3									32	2	8	8	1	
KANSAS																								
Garden City 10/9, 11			BL	116		78				113								20	22		2			
Tribune 10/3, 10			BL	1		19				6								17	11					
KENTUCKY																								
Lexington 10/11-18			BL	6						5									5			4		
MISSISSIPPI																								
Stoneville 10/11-17	43-84	1.66	2BL	24				252	62	1189								1	39	188	14	2	222	
NEW MEXICO																								
Las Cruces 10/11-18			4BL												87	71							24	
PENNSYLVANIA (Districts)																								
Central 10/10-12			BL	2														1	1		1			
North West 10/10-12			BL	2						4								3	11					

First Record of *Hippelates flavipes* in the United States (Diptera, Chloropidae)

Curtis W. Sabrosky 1/

Hippelates flavipes Loew, a common Neotropical species that has been implicated in the transmission of yaws, is widely distributed "from the Bahamas and Central Mexico southward through the West Indies and Central America to Paraguay and southern Brazil" (Sabrosky, 1951, Amer. Jour. Trop. Med. 31:257-8). It has often been confused with the Nearctic *H. pallipes* (Loew), and in older literature the name *H. flavipes* was applied incorrectly to several Nearctic species.

In several decades of identification work involving thousands of *Hippelates* flies, I had seen no specimens of the species from the United States although from time to time other Neotropical species have been found in the Southern States, especially along the gulf coast. Accordingly, it is of interest to record my collection of *H. flavipes* at Portal, Arizona, 4,800 feet, May 17, 1973, near the Southwestern Research Station of the American Museum of Natural History. I have seen *H. flavipes* from the Mexican states of Nayarit, Oaxaca, and Veracruz, but relatively few collections have been available from northern Mexico to check on its northward extent.

Hippelates flavipes is not an "eye gnat," the term usually associated with *Hippelates* flies, but is attracted especially to sores on the lower limbs, such as the lesions of yaws.

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U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
24(43):833, 1974

Weather of the week continued from page 824.

Thursday, a second front crossed the Great Lakes bringing some rain showers to the lower Great Lakes area and snow showers to the Lake Superior region. Elsewhere, isolated rain showers occurred measuring less than 0.25 inch along the Atlantic Coast States. A small area of light rain began on Friday in southern Illinois and moved over eastern Kentucky and western North Carolina by evening. Otherwise, most of the Nation remained dry. Saturday, rain fell over much of the interior section of the Carolinas and southern Virginia. Rains along the North Carolina coastline left 1 inch at Cape Hatteras. An approaching cold front brought low clouds and some rain to the Pacific Northwest coast. Sunday, one inch of snow covered the ground at the Canton-Akron Airport in Ohio as well as in both Muskegon and Marquette, Michigan, and as far south as Beckley, West Virginia.

TEMPERATURE: Unseasonable cold air kept temperatures below normal last week in the Nation's eastern half. Sections of New England averaged between 6 and 11 degrees below normal and the Great Lakes area averaged between 9 and 13 degrees below normal. The week's temperatures averaged 6 and 7 degrees below normal in central Texas. However, from the eastern slopes of the Rockies to the west coast temperatures were above normal. Great Falls, Montana, averaged as much as 12 degrees above normal and California's interior valley was 9 degrees above normal. Monday, maximum temperatures ranged from 100 degrees at Palm Springs, California, to 43 degrees at International Falls, Minnesota, and Grand Forks, North Dakota. The coldest reading in the morning was 18 degrees at Butte, Montana. Predawn temperatures dropped into the 20's and 30's from the northern Great Lakes to the northern and central Plains on Tuesday. Record low temperatures were set at North Platte, Nebraska, 16 degrees and St. Joseph, Missouri, 25 degrees. Wednesday, early morning temperatures over the country were in the 30's from the eastern Dakotas into northern New England and 70's along the south Atlantic coast and over Florida. Record morning lows were set in Texas: Victoria 45 degrees, Beaumont and Port Arthur 40 degrees. Unseasonably cool air covered most of the Nation on Thursday morning. A record low of 45 degrees was recorded as far south as New Orleans, Louisiana. Predawn temperatures were mostly in the 30's from the Great Lakes region to northern New England with a few places in Upper Michigan in the 20's. Sault Ste. Marie, Michigan, had a record low temperature for so early in autumn and the coldest reading in the Nation of 17 degrees. Cold weather prevailed from the northern and central Atlantic coast to the Great Lakes region and Ohio Valley on Saturday. Record morning lows reported New York City, New York, 32 degrees, Worcester, Massachusetts, 24 degrees, Cincinnati, Ohio, 31 degrees, Allentown, Pennsylvania, 24 degrees, and Concord, New Hampshire, 11 degrees. Sunday, Philadelphia, Pennsylvania, measured its coldest temperature for this early in the season with 27 degrees.

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November 1, 1974

Cooperative Economic Insect Report

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PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
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ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

All reports and inquiries pertaining to this release, including the mailing list, should be sent to:

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Pest Survey and Technical Support Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20782

Volume 24 November 1, 1974 Number 44

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

GREENBUG on wheat in south-central Washington resulted in much treatment in area. Pest heavy on volunteer wheat in west-central Oklahoma. (p. 837).

SOUTHWESTERN CORN BORER damage to corn in Kansas probably heavier this year than since outbreaks of 1940's and early 1950's. Mild winter could result in much more widespread and damaging infestations in 1975. (p. 838).

ALFALFA WEEVIL adults at significant levels in alfalfa in northeast Kansas; much fall egg laying may occur soon if warm weather continues. (p. 839).

SPRUCE BEETLE building up on spruce on portion of Santa Fe National Forest in New Mexico. (p. 841).

Detection

New State records include a BARK BEETLE in New Mexico (p. 841) and a PSYLLID in Alabama (p. 841).

For new county records see page 845.

- One issue of the CEIR will be published each month for November, December, and January. This action is being taken because of reduced insect activity during this period and the need for the editorial staff to concentrate on special projects.

- Contributions for the revision of "Survey Methods for Some Economic Insects" are still being solicited. See CEIR 24(8):79 for details.

Reports in this issue are for week ending October 25 unless otherwise indicated.

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NATIONAL WEATHER SERVICE'S 30-DAY OUTLOOK

NOVEMBER 1974

The National Weather Service's 30-day outlook for November is for temperatures to average above seasonal normals across the Nation except for near normal in the West Coast States and the southern Great Plains and near to below normals in the Southeast. Precipitation is expected to exceed the median amount in the Southeast and west of the Mississippi River except for the northern Rocky Mountains. Elsewhere less than the median is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price $5.00 a year.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ASTER LEAFHOPPER (Macrosteles fascifrons) - OKLAHOMA - Heavy in wheat in Beckham County and in scattered fields in Grady County. (Okla. Coop. Sur.). MISSOURI - Leafhoppers, mainly this species, observed in all wheatfields checked in southwest area. Feeding damage resulted in loss of older blades in early planted fields. Counts ranged 1-18 leafhoppers per row foot. (Thomas).

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Total of 14,960 acres in East Bakersfield area of Kern County sprayed during period October 16-19. Postspray checks indicated 90 percent kill. (Cal. Coop. Rpt.).

CORN EARWORM (Heliothis zea) - OKLAHOMA - Larvae numerous in bluegrass lawns in Texas County. (Okla. Coop. Sur.). ALABAMA - Early instar larvae of this species and probably Spodoptera frugiperda (fall armyworm) infested oats at Fairhope, Baldwin County. S. frugiperda predominant. (Coats).

GREENBUG (Schizaphis graminum) - WASHINGTON - Present on wheat in Klickitat, Yakima, Benton, and Franklin Counties. Caused moderately severe damage in Bickleton area, Klickitat County. Controls applied to much wheat in area. Damage moderate to minor in other areas but much spraying underway. Rhopalosiphum padi (an aphid) associated with greenbug in these areas. (Klostermeyer). KANSAS - No significant infestations found in sown or volunteer wheat. Heaviest counts in sown wheat ranged 2-5 per drill row foot in Jackson, Brown, Atchison, and Gove Counties. Generally none but occasionally trace numbers found in sown wheat in Shawnee, Seward, Stevens, Hamilton, Hodgeman, Ness, Lane, and Greeley Counties. Trace numbers often found in volunteer wheat in these counties. (Bell). MISSOURI - Light in most fields of wheat in southwest area. Small colonies can be found throughout fields. (Munson). OKLAHOMA - Heavy in volunteer wheat in Custer County but light in planted fields checked in Custer, Caddo, and Washita Counties. Moderate in Jefferson County. (Okla. Coop. Sur.). ARKANSAS - Counts very light, with only occasional specimen found in wheat in northwest area. (Boyer). TEXAS - Generally light on oats in San Angelo area, Tom Green County. Controls applied to isolated infested fields in area. (McWhorter).

SPOTTED ALFALFA APHID (Therioaphis maculata) - ARKANSAS - Survey negative in alfalfa in Washington County. (Boyer).

CORN, SORGHUM, SUGARCANE

CORN ROOTWORMS (Diabrotica spp.) - NORTH DAKOTA - Of fields surveyed for Ostrinia nubilalis (European corn borer), 24 percent showed lodged or "goosenecked" plants due to damage by these pests. Damage heaviest in Cass County with 67 percent of fields with damage; Richland County 25 percent, Sargent County 15 percent, Ransom County 13 percent, and no damaged fields observed in Dickey County. Adults still active October 14 in Cass County. (Brandvik). WISCONSIN - D. longicornis (northern corn rootworm) and D. virgifera (western corn rootworm) still present in few alfalfa fields near corn. (Wis. Ins. Sur.).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - KANSAS - Fall survey begun during mid-September recently completed. In south-central district and to some extent in central and southwest districts, damage probably heavier in 1974 than since outbreaks of 1940's and early 1950's. During that period, pest caused many corn growers to drop corn production in southern and central areas and most especially in south-central and central districts. Mild winter, allowing high survival of overwintering larvae, could result in much more widespread and damaging infestations in 1975. Results of 1974 survey show heaviest infestations (50 percent of stalks or better in at least some fields) occurred in following counties surveyed: Barton, Ellis, Rice, Kiowa, Pawnee, Pratt, Stafford, Stevens, Morton, and Ness. Two fields surveyed in mid-October, after most corn harvested, showed up to 60 percent lodging in Pawnee County as opposed to high of 20 percent about 30 days earlier when initial survey made. Up to 52 percent lodging noted in infested fields in Ellis County, 40 percent in Rice County of central district during late September. (Bell).

SORGHUM WEBWORM (Celama sorghiella) - MISSOURI - Light to moderate in late-planted sorghum in west-central and southwest areas. Larvae ranged 0-43 per 100 heads. (Munson).

FALL ARMYWORM (Spodoptera frugiperda) - SOUTH CAROLINA - Larvae collected from corn in Dillon County September 26, 1974, by C. Moody. Determined by V.H. McCaskill. This is a new county record. (McCaskill).

SMALL GRAINS

HESSIAN FLY (Mayetiola destructor) - KANSAS - No damaging infestations found in sown wheat this fall. Heaviest numbers found in sown wheat this period involved 40 percent infestation in some very early planted wheat in Hamilton County and 32 percent in field in Greeley County. Infestations ranged 0-4 percent in other fields surveyed in these counties and in Seward, Stevens, Hodgeman, Gove, Lane, and Ness Counties. Volunteer wheat in these counties had infestations of 0-88 percent. None found in sown whea in Shawnee, Jackson, Atchison, and Brown Counties. In one volunteer wheatfield in Shawnee County, 56 percent of plants infested. Pupae collected from wheat in Stevens County October 23, 1974, and determined by H.E. Somsen. Pupae collected from wheat in Seward County October 24, 1974, and determined by M.L. Shuman. These are new county records. With these 2 new county records, this pest now has documented statewide distribution in State. (Bell). MISSOURI - Infestations observed in most of very early planted fields of wheat in southwest area. One susceptible field had 50 percent of stems infested with up to 5 pupae per stem. (Thomas).

FALL ARMYWORM (Spodoptera frugiperda) - TEXAS - Populations scattered and light but increasing on small grains in counties in San Angelo area of Tom Green County. Small grains in area just emerging to about 4 inches tall. Some treatment reported. (McWhorter).

CHINCH BUG (Blissus leucopterus leucopterus) - OKLAHOMA - Heavy, 5-8 per plant, in spots in fields of wheat following sorghum in Jefferson County. (Okla. Coop. Sur.).

WHEAT CURL MITE (Eriophyes tulipae) - KANSAS - Heavy in spots in volunteer wheatfield in Marion County and over entire volunteer field in Harvey County. Several fields of volunteer wheat heavily infested in Pratt and Kiowa Counties. (Bell).

TURF, PASTURES, RANGELAND

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Adults moderate and observed flying October 19 and 20 over about 400,000 acres of rangeland in Colfax County. Some egg laying observed. (N.M. Coop. Rpt.).

RICE WATER WEEVIL (Lissorhoptrus oryzophilus) - CALIFORNIA - Adults collected on Echinochloa crusgalli (barnyard grass) at Marysville, Yuba County, August 15, 1974, by P. Crane and D. Wilson. Determined by R.E. Warner. This is a new county record. (PPQ).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - KANSAS - During past 14 days adults moved into alfalfa in significant numbers at least in Riley and other nearby counties. Significant counts seem mostly restricted to fields with plant heights of 8 inches or more. In such fields, weevils principally found feeding on terminal growth, mating pairs common this period. Very few fall-laid eggs found but many dissected female weevils showed fully developed ovaries. Much fall egg laying may occur soon, providing warm weather continues or periods of warm weather occur before winter. In 12-inch alfalfa, adult counts averaged up to 24.5 per 10 sweeps in Pottawatomie, 17 in Wabaunsee, and 13.5 in Riley Counties. Other significant counts include 8.8 adults per 10 sweeps in 14-inch alfalfa in Marion, 7 in 14-inch alfalfa in Saline, and 3 in 9-inch alfalfa in Riley Counties. Weevils ranged 0-1.5 per 10 sweeps in 3 to 5-inch alfalfa in Dickinson, Pottawatomie, Riley, Jackson, Atchison, and Wabaunsee Counties. Trace numbers of large larvae found in 12-inch alfalfa in Riley and Wabaunsee Counties. (Bell).

OKLAHOMA - Alfalfa weevil adults averaged 14 per 20 sweeps in alfalfa checked in Washita, Caddo, and Custer Counties. (Okla. Coop. Sur.). MISSOURI - Adults ranged 0-9 per 10 sweeps of forage legumes in southwest area. (Munson). KENTUCKY - In various Fayette County fields, eggs averaged 8.7, 9, 0.2, 0.8, and 2.6 per square foot. In Barren County, eggs averaged 0.83 per square foot. (Barnett, Parr). WISCONSIN - Larvae still present in green alfalfa in Dane County, but counts no heavier than 3 per 50 sweeps. Adults present in southern Sauk County field, averaged about one per 50 sweeps. (Wis. Ins. Sur.).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - OKLAHOMA - Averaged 40 per 20 sweeps in alfalfa checked in Washita, Caddo, and Custer Counties. (Okla. Coop. Sur.). MISSISSIPPI - Adults averaged 10 per 25 sweeps in regrowth crimson clover in Oktibbeha County. (Robinson).

ALFALFA CATERPILLAR (Colias eurytheme) - NEW MEXICO - Larvae still ranged 10-12 per 25 sweeps of alfalfa near Roswell, Chaves County. Spissistilus festinus (threecornered alfalfa hopper) ranged 4-6 and Lygus spp. (lygus bugs) ranged 6-8 per 25 sweeps at same location. (N.M. Coop. Rpt.).

PEA APHID (Acyrthosiphon pisum) - WISCONSIN - Scarce in alfalfa. Specimens collected in Iron and Lincoln Counties October 10 all viviparae; parasitism averaged about 20 percent and disease 15 percent in both areas. Collections in Sauk and Dane Counties October 22 showed 97 percent viviparae and 3 percent oviparae; 3 percent diseased, 6 percent parasitized. Few males noted. (Wis. Ins. Sur.). ARKANSAS - Little change from previous period. Ranged 100-200 per 100 sweeps in Washington County legumes. (Boyer).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - MISSISSIPPI - Adults averaged 9 per 25 sweeps in regrowth crimson clover in Oktibbeha County; counts lighter than previous period. (Robinson).

REDLEGGED GRASSHOPPER (Melanoplus femurrubrum) - WISCONSIN - Adults still active in margins of Sauk County alfalfa fields. (Wis. Ins. Sur.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - OKLAHOMA - Adults taken in pheromone traps in Muskogee County totaled 59 in 32 traps. (Okla. Coop. Sur.).

TOBACCO BUDWORM (Heliothis virescens) - LOUISIANA - Boll damage more extensive in more fields than most growers aware until ready to harvest. This damage reflected in lower yields than expected. (Tynes).

SUGAR BEETS

SUGARBEET ROOT MAGGOT (Tetanops myopaeformis) - NORTH DAKOTA - Harvested, treated fields in Pembina County had 4-60 maggots per beet hole. This is increase from 1-3 maggots per hole found in 1973. Treated fields in dry areas ranged 10-15 per hole in 1974 while wetter areas ranged 3-4 maggots per hole. (Kaatz).

DECIDUOUS FRUITS AND NUTS

PEACHTREE BORER (Sanninoidea exitiosa) - NEW MEXICO - Activity noted on peach trees in Belen area of Valencia County and in Albuquerque area of Bernalillo County. Many affected trees dying. (N.M. Coop. Rpt.).

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Larvae heavy in pecans throughout Mobile County; Stewart and Desirable varieties most affected. Loss heavy to pecan crop although growers applied controls 8 times on 3-week schedule during season. Full-grown larvae infested about two-thirds of shucks examined from Bullock County. (Robinson et al.). TEXAS - Isolated damaging infestations noted on pecans in San Angelo, Tom Green County. (McWhorter).

BLACK PECAN APHID (Tinocallis caryaefoliae) - ALABAMA - This species and Monellia spp. (yellow pecan aphids) very heavy on pecan trees and caused early, heavy leaf shedding in Covington, Escambia, and Geneva Counties. (Linder et al.).

SMALL FRUITS

A PSYLLID (Trioza tripunctata) - ALABAMA - Collected from blackberry plants in Crenshaw County September 12, 1974, by W.T. Seibels. Determined by L.M. Russell. This is a new State record. (McQueen).

ORNAMENTALS

IMPERIAL MOTH (Eacles imperialis) - SOUTH CAROLINA - Larvae collected from yard in Horry County October 16, 1974, by W.D. Witherspoon. Determined by C.A. Thomas. This is a new county record. (McCaskill).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - TENNESSEE - Heavy on ornamental Chinese red pine in Franklin County. Collected October 23, 1974, by J. Cagle. Determined by C.D. Gordon. This is a new county record. (Gordon).

COCHINEAL INSECT (Dactylopius coccus) - ARIZONA - Infested pricklypear and pencil cholla cacti at State fair grounds at Phoenix, Maricopa County. Heavy in plantings of these cacti at residences in Phoenix and in Tucson, Pima County. (Ariz. Coop. Sur.).

A PIT SCALE (Cerococcus kalmiae) - PENNSYLVANIA - Adults and eggs found on Ilex crenata in Baden, Beaver County, October 7, 1974, by L. Garrett. Determined by J.F. Stimmel. Adults averaged 100 per 4-inch twig; damage 90 percent due to sooty mold covering stems. (Kim).

FOREST AND SHADE TREES

SPRUCE BEETLE (Dendroctonus rufipennis) - NEW MEXICO - Population has begun to build up to twice level observed in 1973 in Mesa del Medio area of Santa Fe National Forest. "Fly-out" in 1975 expected to increase further; spruce stand being watched closely. (N.M. Coop. Rpt.).

MOUNTAIN PINE BEETLE (Dendroctonus ponderosae) - ARIZONA - This species and Ips spp. (bark beetles) infested about 400 acres of ponderosa pine on Kaibab National Forest. Bottoms of trees most heavily infested. (Ariz. Coop. Sur.).

A BARK BEETLE (Phloeosinus cristatus) - NEW MEXICO - Adults collected from pine in Fort Bayard area of Grant County August 9, 1974, by J. Hinrich. Determined by D.M. Anderson. This is a new State record. P. cristatus usually infests species of cypress, rather than pine. (PPQ).

NANTUCKET PINE TIP MOTH (Rhyacionia frustana) - WEST VIRGINIA - Pupae found in tips of Virginia pine tree in Berkeley County October 10. (Miller). NORTH CAROLINA - Pupae heavy in loblolly pines in Orange County. Moderate in Piedmont Region. Light in Virginia pines. Fourth generation entered overwintering diapause (pupae) about mid-August. (Richmond).

COOLEY SPRUCE GALL APHID (Adelges cooleyi) - NEW MEXICO - Maturing galls on spruce in Santa Fe area of Santa Fe County causing concern. (N.M. Coop. Rpt.).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - CALIFORNIA - Pheromone developed by J. Peacock added several new county records to known infestation area of this vector of Dutch elm disease in State. Traps operated in Gaberville, Humboldt County, August 28 through September 17, 1974, collected by T. Haig. Traps operated in Placerville, El Dorado County, and in Grass Valley and Nevada City, Nevada County, August 28 through October 10, 1974, collected by P. Crane. Traps operated at Bishop and Big Pines, Inyo County, and at Walker and Leavening, Mono County, August 28 through October 3, 1974, collected by G. Drake. Determined by F. Andrews. Humboldt, El Dorado, Nevada, Inyo, and Mono Counties are new county records. (Cal. Coop. Rpt.).

A NOCTUID MOTH (Melipotis jucunda) - ARIZONA - Larvae heavy in paloverde and mesquite trees around residences northeast of Phoenix, Maricopa County. (Ariz. Coop. Sur.).

AN APHID (Calaphis callipterus) - NEVADA - Heavy on birch trees in Minden and Gardnerville area of Douglas County; leaves and branches covered with honeydew. (Bechtel, Lauderdale).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 648 confirmed cases reported from continental U.S. during period October 13-19 as follows: Texas 637, New Mexico 1, Arizona 5, California 2, Oklahoma 3. Total of 627 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 139,872,300 as follows: Texas 122,667,900; New Mexico 5,126,400; Arizona 11,358,000; California 360,000; Oklahoma 360,000. Total of 69,272,100 sterile flies released in Mexico. (Anim. Health).

SECONDARY SCREWWORM (Cochliomyia macellaria) - OKLAHOMA - Three cases confirmed and several more suspected samples collected in Jefferson County past 14 days. (Okla. Coop. Sur.).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Adults ranged 0-6 (averages ranged 2-3) per face in one herd of mixed beef animals in Chickasaw County. (Combs). KENTUCKY - Adults collected in Bracken, Mason, and Robertson Counties, September 7, 1974, by D.E. Barnett. Determined by D.E. Barnett, confirmed by F.W. Knapp. These are new county records. (Barnett).

HORN FLY (Haematobia irritans) - OKLAHOMA - Ranged 150-200 per head on cattle checked in Payne County, 50-100 per head in Mayes County. (Okla. Coop. Sur.). MISSISSIPPI - Adults averaged 20 per beef animal in mixed herd in Monroe County. (Combs). TEXAS - Activity declined throughout most areas of State due to cool weather. (McWhorter).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged 0.5 per head on dairy cattle checked in Payne County. (Okla. Coop. Sur.).

BROWN RECLUSE SPIDER (Loxoceles reclusa) - KENTUCKY - Specimen collected in Franklin County by M.Q. Lee October 21, 1974. Determined by R.A. Scheibner, confirmed by D.E. Barnett. This is a new county record. (Barnett).

BENEFICIAL INSECTS

CONVERGENT LADY BEETLE (Hippodamia convergens) - ARKANSAS - Adults continued active in green vegetation in northwest area. Numbers very light, ranged 50-100 per 100 sweeps. Beetles more common in alfalfa than in wheat, likely due to heavy populations of aphids in alfalfa. (Boyer). OKLAHOMA - Adults numerous in alfalfa and wheat in Caddo, Custer, and Washita Counties. (Okla. Coop. Sur.).

AN ICHNEUMON WASP (Bathyplectes tristis) - KANSAS - Samples of adults of this parasite of Hypera postica (alfalfa weevil) swept from alfalfa in Barton and Pawnee Counties October 16, 1974, and determined by K.O. Bell. These are new county records. (Bell).

A EULOPHID WASP (Sympiesis viridula) - INDIANA - Pupae collected from burrow of Ostrinia nubilalis (European corn borer) larva in cornstalk north of Terre Haute, Vigo County, September 16, 1974, by R.W. Meyer. Adults reared from these pupae emerged September 22, 1974. Determined by R.W. Meyer. This is a new county record. (Meyer).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

EUROPEAN CRANE FLY (Tipula paludosa) - WASHINGTON - Surveys of various fields in Lynden and Sumas area of Whatcom County past month indicate population level very light. (Campbell).

ORIENTAL FRUIT FLY (Dacus dorsalis) - CALIFORNIA - Total of 255 adults captured at San Diego, San Diego County, since first fly taken September 6, 1974. One adult female taken as of October 11; however, there is evidence of more than one female in area. Nearly 25 pounds of host fruit destroyed to reduce forthcoming next larval generation. Larvae have been taken in lemon, Catalina cherry, peach, orange, and Kaffirplum. Male "annihilation" treatment area includes 9 square miles. In Los Angeles County, single male taken in Steiner trap September 17, 1974. Current Panorama City find being delimited. Compliment of 314 traps of projected total of 360 traps checked twice with negative findings. Male "annihilation" treatment begun by State September 18, Federal male "annihilation" treatment begun September 21. Federal female "annihilation" treatment begun September 23. Second treatment completed, third treatment in progress. (Cal. Coop. Rpt; PPQ). This statement replaces that in CEIR 24(42):815. (PPQ).

PINK BOLLWORM (Pectinophora gossypiella) - LOUISIANA - Infestations found in following parishes in 1974: Caddo, Bossier, Webster, Bienville, Red River, De Soto, Natchitoches, Grant, Rapides, and at 3 locations in Catahoula Parish. More infestations may be found in other parishes before end of year. (Tynes).

RED IMPORTED FIRE ANT (Solenopsis invicta) - TEXAS - Increased mound building activity reported throughout southeast area past 24 days. One 2-acre plot in Brazos County averaged 50 mounds per acre. (Green).

WESTERN GRAPELEAF SKELETONIZER (Harrisina brillians) - CALIFORNIA - Survey revealed 90+ infested properties in 1 by 1.5-mile area in Visalia, Tulare County. Late-season treatment, due to larval infestations during unusually warm fall weather, exceptionally effective. Results using new control formulation exceptionally encouraging. (Cal. Coop. Rpt.).

HAWAII INSECT REPORT

General Vegetables - BEET ARMYWORM (Spodoptera exigua) larvae infested estimated 30 percent of plants in about 2 acres of green onions at Pearl City, Oahu. Each infested plant had at least 10-15 percent of leaves infested. (Mau).

Fruits and Ornamentals - Heavy infestations of ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) still being observed on citrus and rose throughout Kapahulu, Oahu. New infestations recorded in fringe areas of original infestations at Kaimuki and Palolo, Oahu. (Mau). Damage caused by larvae of OLEANDER HAWK MOTH (Deilephila nerii) observed on oleander through Pearl City and up to Mililani, Oahu. All larvae collected last few weeks appear to be progeny of one generation of adults. Recent surveys yielded no eggs or young larvae; there appears to be no overlap in generations at this time. Later-instar larva collected from Gardenia taitensis (Tahitian gardenia) at Aiea, Oahu. This is first report of this insect on host other than oleander. (Shiroma et al.). More adults of a SPHINGID MOTH (Theretra nessus) collected at various locations on Qahu; recently collected at Mt. Kaala, Kaneohe, Kalihi, and at Honolulu International Airport. To date, no larvae collected. (Mau).

Beneficial Insects - Adults and larvae of a COCCINELLID BEETLE (Serangium maculigerum) collected from rose at Kapahulu, Oahu. Larvae and adults observed feeding on immature stages (excluding eggs) of Aleurocanthus spiniferus (orange spiny whitefly). This coccinellid not found on many rose plants in area. (Murai, Mau). Numerous galls of a GALL FLY (Procecidochares sp.) observed during September at release sites at Volcano and Kona, Hawaii. Galls of this biological control agent of Hamakua pamakani collected at random from Volcano sites yielded average of 4.8 flies per gall. Comparative life cycle duration information reported as 35-40 days at Hilo and 73-76 days at Volcano, Hawaii Island. About 5,000 flies released at various locations on Hawaii Island during September. A release of Procecidochares sp. also made in Honouliuli Forest Reserve by J. Fujii. About 200 flies released on Hamakua pamakani at 2,500 feet elevation. (Mau).

DETECTION

New State Records - A BARK BEETLE (Phloeosinus cristatus) - NEW MEXICO - Grant County. (p. 841). A PSYLLID (Trioza tripunctata) - ALABAMA - Crenshaw County. (p. 841).

New County Records - BROWN RECLUSE SPIDER (Loxosceles reclusa) KENTUCKY - Franklin (p. 843). A EULOPID WASP (Sympiesis viridula) INDIANA - Vigo County (p. 843). FACE FLY (Musca autumnalis) KENTUCKY - Bracken, Mason, Robertson (p. 842). FALL ARMYWORM (Spodoptera frugiperda) SOUTH CAROLINA - Dillon (p. 838). HESSIAN FLY (Mayetiola destructor) KANSAS - Stevens, Seward (p. 838). AN ICHNEUMON WASP (Bathyplectes tristis) KANSAS - Barton, Pawnee (p. 843). IMPERIAL MOTH (Eacles imperialis) SOUTH CAROLINA - Horry (p. 841). PINE NEEDLE SCALE (Phenacaspis pinifoliae) TENNESSEE - Franklin (p. 841). RICE WATER WEEVIL (Lissorhoptrus oryzophilus) CALIFORNIA - Yuba (p. 839). SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) CALIFORNIA - Humboldt, El Dorado, Nevada, Inyo, Mono (p. 842).

CORRECTIONS

CEIR 24(40):793 - DETECTION - New State Record - A CARABID BEETLE (Platypatrobus lacustris) - Last line should read: "Determined by P.M. Choate and T.J. Dyrkacz. (Blickle)."

CEIR 24(42):815 - ORIENTAL FRUIT FLY (Dacus dorsalis) - CALIFORNIA - Delete last sentence: "Projected male "annihilation" treatment scheduled to begin October 14." See page 843 of this issue for corrected statement.

LIGHT TRAP COLLECTIONS

	Temperature °F	Precipitation (inches)	Type of trap (BL blacklight, UV ultraviolet, M mercury vapor, O other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (what head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Mamestra quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARIZONA																								
Mesa 10/14-20			BL	11		2				17								67		376		41	31	
FLORIDA																								
Gainesville 10/18-23			BL	17			69	2	2										31	1	19	13		
KANSAS																								
Garden City 10/21, 22, 24			BL	73		26			86									13	46					
Great Bend 10/16-22			BL	82		750			152									31	662					
KENTUCKY																								
Lexington 10/18-25			BL	2															1					
MISSISSIPPI																								
Stoneville 10/18-24	41-81		2BL	15			128	20	376									1	9	86	19	5	20	
NEW MEXICO																								
Las Cruces 10/18-25			BL												2	6								
OHIO																								
Wooster 10/12-18			3BL	15					10									14	15		14	5		

WEATHER OF THE WEEK ENDING OCTOBER 27

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Warm moist gulf air moved northward last week triggering precipitation throughout Texas northward to Kansas and westward through the Rocky Mountains into southern Idaho. Moderate rains of 0.30 to 1.50 inches fell along the Washington, Oregon, and northern California coasts. In Texas, over 2 inches fell in Del Rio, San Angelo, San Antonio, and Corpus Christi. Elsewhere, Blanding, Utah, reported over 2 inches. Rain was generally 0.20 inch or less in the Corn Belt and confined to Indiana and Ohio. Little or no rain fell over the remainder of the Nation. The only exception was the east coast of Florida, where some moderate precipitation was reported last week. A High pressure system moved slowly southeastward during the week, pumping cooler air across the Appalachian Mountains and into the Nation's eastern third keeping temperatures below normal. In the Nation's western two-thirds, temperatures were above normal with the exception of an area including southern parts of Oregon, Idaho, extreme northern California, and northern Nevada, where temperatures averaged 1 to 4 degrees below normal.

PRECIPITATION: Moist Pacific air moving into the Western States dropped moderate rains along the coast and reinforced the gulf moisture reaching across the Rocky Mountains. Rainfall ranged from over 2 inches in Texas to 0.84 inch at Boise, Idaho. The Northeast, Midwest, Southeast, and Far West reported traces of precipitation with only a few isolated heavy showers. Monday, thundershowers from Arizona to western Texas produced moderate to heavy rainfall. In six hours during the afternoon, San Antonio, Texas, reported 1.26 inches of rain. Showers and thundershowers occurred from the Desert Southwest to the southern Plains on Tuesday with some isolated severe weather. Wednesday, a stationary front produced scattered showers and thundershowers in the central and southern U.S., most of the activity occurred from Missouri to Ohio and over the western two-thirds of Texas. A heavy thundershower dumped over 1.50 inches of rain in a 20-minute period at San Antonio, Texas. Early Thursday, activity along a stationary front continued to bring rain to parts of Texas and from the central Plains into the Tennessee Valley. Nearly 2.50 inches of rain soaked Wink, Texas, in only six hours. A cold front curving from northeastern Quebec through extreme southern Michigan and southwestern Iowa to southwestern Texas on Friday, triggered moderate to heavy rains in southeastern Texas and in the central U.S. Nearly 5 inches of rain soaked McAllen, Texas. Showers in the central U.S. and extreme southern Texas decreased overnight and on Saturday, only light showers were scattered through the southern half of the Plains, the lower half of the Mississippi Valley, and the southern half of the Ohio Valley. Some showers and thundershowers occurred over the southern Plains, southern Rockies, western gulf, and middle Mississippi Valley on Sunday.

TEMPERATURE: Temperatures averaged 4 to 8 degrees below normal last week in the Nation's eastern third and 1 to 4 degrees below normal in portions of Oregon, Idaho, California, and Nevada. Warmer than normal areas included southwestern Iowa and Nebraska where Omaha averaged 10 degrees above normal for the week. In

the Southwest, intersecting areas of California, Arizona, and Nevada averaged 4 degrees above normal. In the Nation's mid-section, many areas reported temperatures averaging 4 to 9 degrees above normal. Monday, record morning low temperatures for this early in autumn were set near the central Atlantic coast and in the Great Lakes region. These included Raleigh, North Carolina, 26 degrees; Wilmington, Delaware, 25 degrees; Atlantic City, New Jersey, 27 degrees; Toledo, Ohio, 16 degrees; and Detroit, Michigan, 17 degrees. A record late October cold spell continued in the Southern and Middle Atlantic Coast States on Tuesday. Record lows were recorded in the following cities: Augusta, Georgia, 27 degrees; Charleston, South Carolina, 33 degrees. Morning low temperatures dipped into the 20's in sections of the upper Plains and Mississippi Valley on Wednesday. International Falls, Minnesota, reported a chilly 25 degrees and Aberdeen, South Dakota, plummeted to 26 degrees. The mornings chilliest reading was 18 degrees at Kalispell, Montana. Thursday, a large High moved over northern Montana bringing fair skies and cool temperatures. Afternoon readings were in the 40's and 50's for much of the northern Rockies and Plains. The High pressure area, now located over western South Dakota, continued to pull colder air into the northern half of the Rockies, the upper Plains, and upper Great Lakes on Friday. Most morning temperatures fell into the 20's and 30's. Saturday, the northern Plains and Mississippi Valley reported the chilliest morning temperatures, mostly in the 20's and 30's. Predawn freezing temperatures occurred near the northern U.S. border and as far south as Alamosa, Colorado, on Sunday.

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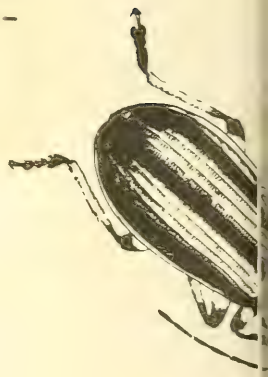

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Cooperative Economic Insect Report

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ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

Current heavy SOUTHWESTERN CORN BORER stalk infestation in southeast New Mexico suggests increasing population which could cause heavy losses to corn in 1975. ENGLISH GRAIN APHID populations in wheat and barley on Maryland Eastern Shore expected to increase, unless cold weather returns, to point problems could develop in spring 1975. (pp. 851-852).

GREEN STINK BUG and SOUTHERN GREEN STINK BUG infestation general in soybeans statewide in South Carolina, worst this late in season for about 10 years. (p. 854).

BANDEDWING WHITEFLY and late COTTON APHID infestations on cotton resulted in 20 to 25-dollar losses per bale on several thousand acres in east-central Alabama. (p. 854).

Detection

- A SCOLYTID BEETLE reported for first time in continental United States. Species widely distributed in Africa, southern Asia, Indonesia, and the islands of the Pacific, including the Hawaiian Islands. Hosts include representatives of 41 plant families and some genera that occur in North America. (pp. 863-864).

New State records include an ARMORED SCALE and an ERIOPHYID MITE in Pennsylvania (p. 856), a BARK BEETLE in New Mexico (p. 856), a LEAFHOPPER in Kentucky (p. 861), a PSYLLID in Alabama (p. 855), a SPHINGID MOTH in West Virginia (p. 857), a SPIDER MITE in Florida (p. 855), and in Utah, BEET ARMYWORM, CABBAGE LOOPER, CIGARETTE BEETLE, CLOVER CUTWORM, a MEMBRACID, a NOCTUID MOTH, SOUTHERN CABBAGEWORM, and a TORTRICID MOTH (pp. 854-858).

For new county and island records see page 861.

Special Report

First Report of *Xyleborus semiopacus* in the Continental United States (Coleoptera, Scolytidae). (pp. 863-864).

Reports in this issue are for weeks ending November 1 through November 15 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING NOVEMBER 11

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: The season's first major snowstorm blanketed much of the northern Great Plains, Corn Belt, and Great Lakes area early. Moderate to heavy rains fell along the northern Gulf Coast States and northward through Tennessee and Kentucky into Ohio. Most of New England received at least 1 inch of rain except along the Atlantic coast. Precipitation was very light over the northern Plains and Pacific Northwest except along the Oregon and Washington coast where it was heavy. No precipitation fell in the remainder of the Western States. Temperatures were below normal east of the Rockies, except for northern New England and southern Florida. From the Rockies westward temperatures were well above normal.

PRECIPITATION: Over most of the Nation's eastern half, precipitation was light with scattered amounts reported over the Northwestern States and north-central area. Although amounts were light, much of the precipitation over the Corn Belt fell as snow. Monday, last week's major cold front, stretching from a Low over the Great Lakes to the western gulf coast, continued to produce light rain and drizzle from the western Great Lakes region to the central gulf coast and in the eastern Mississippi Valley. The front moving rapidly eastward, by evening had reached from the Ohio Valley into the Florida Panhandle. Cold air from the backside of the Low, which was moving northward, brought the first snow of the season to the northern Corn Belt on Tuesday. Much of the Great Lakes region reported snow and gusty winds, while sleet and snow invaded central Illinois. Snow also fell in parts of the central and southern Appalachians. At sunset, 5 inches of snow blanketed Hancock, Michigan, Duluth, Minnesota, and Park Falls, Wisconsin, measured 1 inch. Weather of the week continued on page 862.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

GREENBUG (Schizaphis graminum) - TEXAS - During period October 21-31, surveys conducted in 20 Panhandle Counties. Maximum number per row foot of wheat ranged from one in Deaf Smith, Castro, and Moore Counties to 30 in Hutchinson and Randall Counties and 50 in Parmer County. None found in Oldham and Hall Counties. Parasitized S. graminum found in Hale County. Lady beetles present in most fields checked. (Daniels). NEW MEXICO - Light on fall wheat week ending November 8; ranged 2-4 per linear foot near Clovis, Curry County. (N.M. Coop. Rpt.). OKLAHOMA - Ranged up to 35 per linear foot in wheat in Washita, Beckham, and Roger Mills Counties week ending November 1; light in some Jackson County areas. Light in Jefferson County wheat week ending November 8. Damaged young wheat in Beaver and Harper Counties week ending November 15; light in Beckham, Custer, and Washita Counties. (Okla. Coop. Sur.).

ARKANSAS - Greenbug light in small grains in east-central and northeast areas week ending November 1, and in central and eastern areas week ending November 8; limited survey in Washington County negative, but trace counts found week ending November 15. (Boyer et al.). KANSAS - Averaged trace to 3 per drill row foot in 6 to 8-inch wheat in Riley and Pottawatomie Counties week ending November 15. (Bell). NEBRASKA - Noted in most wheat in Sioux, Box Butte, Banner, and Scotts Bluff Counties, averaged 10 per linear drill row foot October 30. (Hagen). SOUTH DAKOTA - At noneconomic levels in winter wheat near Sturgis, Meade County, and near Wall, Pennington County, week ending November 8. Doubtful if heavy populations will develop. (Walgenbach).

WASHINGTON - Greenbug ranged moderate to severe on young wheat in Adams and Whitman Counties October 31. Further infestation noted with some damage reported in Lincoln and Adams Counties week ending November 1. By November 8, severely damaged wheat at Waterville, Douglas County. (Meyer et al.). OREGON - Present on wheat in Umatilla, Morrow, Sherman, and Wasco Counties week ending November 15. Also damaged Sudan and milo plantings in Morrow County. Treatments applied in some areas. (Robinson, Goeden).

SPOTTED ALFALFA APHID (Therioaphis maculata) - KANSAS - Infestation none to light (range 0-55 per 10 sweeps) in alfalfa 6-18 inches tall in Gray, Meade, and Haskell Counties week ending November 1; ranged 50-100 per 100 sweeps in Rawlins County week ending November 8. (Bell). ARKANSAS - Survey negative in alfalfa in Washington County week ending November 8. (Boyer). FLORIDA - Very light, 7 nymphs collected in 100 sweeps of blooming alfalfa at Gainesville, Alachua County, November 12. (Fla. Coop. Sur.).

CORN, SORGHUM, SUGARCANE

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - NEW MEXICO - Preliminary surveys week ending November 8 showed up to 75 percent of cornstalks damaged in field near Clovis, Curry County. Stalk infestation 75 percent in Hobbs and Lovington areas of Lea County week ending November 15. Suggests increasing population which could cause heavy losses in 1975. (N.M. Coop. Rpt.). TENNESSEE - Collected from corn surveyed October 1-11, 1974, for new county records: Blount, Hamblen, Jefferson, and Loudon

October 1-11, 1974, collected and determined by J. Hammett and W. Van Landingham; Bledsoe October 9, Overton and Putnam October 10, 1974, collected and determined by B. Cole, J. Eisler, and J. Keener; Meigs October 29, 1974, collected and determined by J. Greene and C.D. Gordon. (Gordon). KENTUCKY - Larvae collected from corn by D.E. Barnett October 18, 1974, in Green and Larue Counties. Determined by D.E. Barnett. Confirmed by W.W. Gregory. These are new county records. (Barnett).

SOUTHERN CORNSTALK BORER (Diatraea crambidoides) - NORTH CAROLINA Fall survey in Tidewater counties showed light population in all but 2 counties surveyed. No damage noted in Craven and Onslow Counties. Average infestation in 12 counties 4.6 percent of stalks infested (5 fields per county, 25 stalks per field). Abundance survey in Coastal Plain counties revealed light population in 15 of 23 counties surveyed (5 fields per county, 25 stalks per field). Infestation level in these 15 counties where damage observed averaged 6.4 percent of stalks infested. (Hunt).

EUROPEAN CORN BORER (Ostrinia nubilalis) - TENNESSEE - Collected on corn in Meigs, Rhea, and Bradley Counties October 29, 1974. Collected and determined by C.D. Gordon. These are new county records. (Gordon).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - Infested 10 percent of heads in field of grain sorghum in La Salle County week ending November 8. (Stewart).

SMALL GRAINS

ENGLISH GRAIN APHID (Macrosiphum avenae) - MARYLAND - Light in wheat and barley in Kent, Queen Annes, Caroline, and Dorchester Counties week ending November 8. Counts ranged 1-6 per square yard in heaviest infested fields. Unless cold weather returns, these populations expected to increase to point where problems could develop in spring 1975. (U. Md., Ent. Dept.). KANSAS - Trace in 6-inch wheat in Pottawatomie County week ending November 15. (Bell).

AN APHID (Rhopalosiphum maidis) - WASHINGTON - Moderate to heavy on wheat near Waterville, Douglas County, week ending November 1. (Johnson). OKLAHOMA - Very light in wheat in Washita, Beckham, and Roger Mills Counties same period. (Okla. Coop. Sur.).

RICE STALK BORER (Chilo plejadellus) - MINNESOTA - After many years of trace infestations, extensive damage found in some paddy-grown wild rice week ending November 8. Pest seemed especially numerous near wind breaks on west side of these paddies. At present, rotating paddies is most advantageous method of holding overwintering forms at low levels. (Minn. Pest Rpt.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - OKLAHOMA - Scattered heavy infestations reported in Jackson County wheat week ending November 1. (Okla. Coop. Sur.).

WEST STEM SAWFLY (Cephus cinctus) - NORTH DAKOTA - Survey of hard red spring wheat stubble fields for cutting by this pest showed decrease in cutting in 1974. Cut stems ranged up to 17.6 (average 1.2) percent in 114 fields sampled in 10 counties in 1974 compared to average of 1.7 percent in 1973. Cutting was evident in 58 percent of fields surveyed in 1974 compared to 60 percent in 1973. (Brandvik, Kaatz).

TURF, PASTURES, RANGELAND

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Continued adult activity noted throughout infested area week ending November 1. Mapping continued in Union, Colfax, Harding, Lincoln, Chaves, and De Baca Counties. Adults still active week ending November 8. Oviposition noted in all previously infested areas. South edge of Guadalupe County added to list of counties sustaining population with recovery of eggs and hatching adults. Collected and determined by G. Watts and W.A. Iselin November 2, 1974. This is a new county record. (N.M. Coop. Rpt.).

GREEN JUNE BEETLE (Cotinis nitida) - ALABAMA - Full-grown larvae heavily damaged fescue and Bahia grass pasture sod in Clay County week ending November 15. Treatments scheduled. (Harriston, Faw).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - OKLAHOMA - Eggs averaged 4 per square foot in samples collected October 24 in Payne County, 59 in samples collected October 31 in Stephens County. Some eggs in Stephens County showed "black heads" but no hatching observed. Adults increased in alfalfa in Stephens and Payne Counties but no eggs found up to mid-October. Adults averaged 43 per 20 sweeps in Washita, Beckham, and Roger Mills Counties week ending November 1. (Okla. Coop. Sur.). ARKANSAS - Survey negative in alfalfa and white clover in Washington County weeks ending November 8 and 15. (Boyer). MISSOURI - Alfalfa stem samples for egg counts collected in central, south-central, and southwest areas. Eggs per square foot in samples collected during October by county: Andrew zero, Clinton 3, Boone zero. Adults per 10 sweeps ranged 1-11 in central area. Adults ranged 2-14 per 10 sweeps in southeast area week ending November 2. (Munson).

KANSAS - Alfalfa weevil eggs averaged 80 per square foot in 8-inch alfalfa in Smith County sampled November 11. Eggs averaged 25 per square foot in 12-inch alfalfa in Pottawatomie County sampled October 30; fields had about 25 adults per 10 sweeps October 24. About 20 percent of stems had eggs in sample of 15-inch alfalfa in Haskell County week ending November 15; adults averaged 10 per 10 sweeps. (Bell). NEBRASKA - Adults averaged less than one per 10 sweeps in 3 Thayer County alfalfa fields October 28. (Peters, Sefrna).

PEA APHID (Acyrthosiphon pisum) - KANSAS - Ranged 10-100 per 10 sweeps in alfalfa in several southwest district counties during early November. (Bell). MISSOURI - Light, ranged 16-83 per 10 sweeps, in all alfalfa fields checked in southeast area week ending November 2. (Munson). ARKANSAS - Increased as expected with cooler weather. Ranged 300-400 per 100 sweeps in Washington County alfalfa week ending November 8. Populations decreased week ending November 15; trace in Washington County. (Boyer). FLORIDA - Nymphs and adults totaled 1,500 in 100 sweeps of blooming alfalfa at Gainesville, Alachua County, November 12. (Fla. Coop. Sur.).

SOYBEANS

GREEN STINK BUG (Acrosternum hilare) - SOUTH CAROLINA - General infestation of this species and Nezara viridula (southern green stink bug) noted statewide week ending November 8. Infestations heavy from mid-State to coast. Occurred on mostly mature soybeans. This is worst infestation this late in season in at least 10 years. (Thomas).

SOUTHERN GREEN STINK BUG (Nezara viridula) - ALABAMA - All stages heavy in several hundred acres harvested in Elmore County October 22 to November 1. Thousands observed on combines at emptying station. Killing frost had not yet occurred in central area of State. This allows heavy population to enter hibernation. (Rogers).

CABBAGE LOOPER (Trichoplusia ni) - UTAH - Observed damaging soybeans at Smithfield, Cache County, July 11, 1972. Collected by R.S. Roberts. Determined by D.M. Weisman. This is a new State record. (Roberts).

COTTON

COTTON APHID (Aphis gossypii) - ALABAMA - Heavy populations developed during late October and early November in several hundred acres at Tallassee, Elmore County, after in-season insect controls ended. This pest, along with Trialeurodes abutilonea (bandedwing whitefly), deposited heavy amounts of honeydew on leaves and lint, followed by damaging sooty mold to all bolls before harvest. (Thompson et al.). NEW MEXICO - A. gossypii still troublesome week ending November 8 in southern Dona Ana County where honeydew plus late season moisture caused much boll rot. (N.M. Coop. Rpt.).

BANDEDWING WHITEFLY (Trialeurodes abutilonea) - ALABAMA - Nymphs covered 80-98 percent of all old and new growth leaves on several hundred acres on 2 farms at Tallassee, Elmore County, week ending November 15. Merchant in area estimated sooty mold from this pest and late Aphis gossypii (cotton aphid) population caused loss of 20-25 dollars per bale to growers of several thousand acres in Elmore, Macon, Montgomery, and Tallapoosa Counties. Many thousands of acres equally affected in State. Late-developing populations of Hippodamia convergens (convergent lady beetle), Chilocorus stigma (twicestabbed lady beetle), a braconid wasp, and other beneficial species practically destroyed aphid population after sooty mold problem developed. T. abutilonea now believed to have been major contributing factor for poor cotton yields throughout State. (Thompson et al.).

BOLLWORMS (Heliothis spp.) - ALABAMA - Full-grown larvae of these pests and Spodoptera exigua (beet armyworm) ranged 1-2 per row foot on cotton leaves on 2 farms at Tallassee, Elmore County, week ending November 15. Pupation expected to add to potential moth population in early 1975. (McQueen).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - OKLAHOMA - Larvae collected from cotton at Blair, Jackson County, October 29, 1974, by J. Pickle. Determined by D.C. Arnold. This is a new county record. (Okla. Coop. Sur.).

GENERAL VEGETABLES

BEET ARMYWORM (Spodoptera exigua) - UTAH - Damaged onions at Clearfield, Davis County, July 11, 1973. Collected by Kirshimiga. Determined by D.M. Weisman. This is a new State record. (Roberts).

DECIDUOUS FRUITS AND NUTS

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Damaged nuts ranged from 3 percent in well treated orchards to 60 percent in untreated orchards checked in Love County week ending November 8. (Okla. Coop. Sur.).

A WEEVIL (Curculio nanulus) - UTAH - Collected on peach at Salt Lake City, Salt Lake County, September 6, 1973, by M.S. Burningham. Determined by R.E. Warner. This is a new State record. (Roberts).

NAVEL ORANGEWORM (Paramyelois transitella) - NEW MEXICO - Specimens taken from pecan bud patch near Roswell, Chaves County, July 20, 1974, by G. Fernandez. Determined by D.M. Weisman. This is a new county record. Similar damage reported previously as Acrobasis caryivorella (a nut casebearer) from this area and Eddy County now questionable. More intensive survey planned. (N.M. Coop. Rpt.).

A SPIDER MITE (Eotetranychus smithi) - FLORIDA - Infested Carya illinoensis (pecan tree) at nursery at Monticello, Jefferson County, October 3, 1974. Collected by Q.G. Anglin. Determined by E.W. Baker. This is a new State record. (Fla. Coop. Sur.).

SMALL FRUITS

A PSYLLID (Trioza tripunctata) - ALABAMA - Heavily infested blackberry plants at residence in La Pine, Crenshaw County, September 19. Collected by W.T. Seibels. Determined by L.M. Russell. This is a new State record. (McQueen).

GRAPE BERRY MOTH (Paralobesia viteana) - UTAH - Larvae taken in grapes at Provo, Utah County, by J. Barlow November 8, 1972. Determined by D.M. Weisman. This is a new county record. (Roberts, Knowlton).

ORNAMENTALS

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - CALIFORNIA - Larvae infested Pinus radiata in El Cajon, Spring Valley, and Lemon Grove areas of San Diego County week ending November 1. This has been serious pest on ornamental pines in San Diego County. (Cal. Coop. Rpt.).

A TORTRICID MOTH (Archips rosanus) - UTAH - Taken on linden at Salt Lake City, Salt Lake County, May 23, 1974. Collected by M.S. Burningham. Determined by D.M. Weisman. This is a new State record. (Roberts).

A BARK BEETLE (Phloeosinus cristatus) - NEW MEXICO - Adults collected from Arizona cypress June 10, 1974, by J. Durkin at Deming, Luna County. Determined by D.M. Anderson. This is a new State record. (N.M. Coop. Rpt.).

AN ARMORED SCALE (Carulaspis minima) - PENNSYLVANIA - Adults collected from Juniperus chinensis in Harrisburg, Dauphin County, February 15, 1974, by G.B. Sleesman. Determined by J.F. Stimmel. This is a new State record. Specimens also collected in following counties during 1974: Berks, April 23 by W.E. Blosser; Blair, August 1 by F.E. Dinsmore; Bucks, September 18 by D.B. Christie; Cumberland, August 30 by J. Steinhauser; and York, August 1 by W.E. Blosser and T.J. Henry. Determined by J.F. Stimmel. These are new county records. (Sleesman).

FOREST AND SHADE TREES

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - VIRGINIA - Estimated 2,500 spot infestations active during September in central and southern Piedmont area and in southeastern Coastal Plain counties. This is third consecutive year of epidemic. One of worst areas is in northeast corner of Lunenburg County and west to Keysville area of Charlotte County, where 80 percent of pine stands infested. In Lunenburg County an estimated 11 million board feet and 19,700 cords killed during 1973 and 1974. In lower Suffolk area of Coastal Plain, 540 million board feet of logs and an estimated 600 cords of pulpwood yet to be salvaged from 9 large infested spots on one 400-acre tract. Detection and presuppression surveys during September involved 4,323,300 acres and located 684 new spot infestations. Hardwood leaf coloration will delay surveys until late December. (Va. Div. For.).

ERIOPHYID MITES - PENNSYLVANIA - Platyphytoptus sabinianae and Setoptus jonesi collected on Scotch pine in Clearfield County October 1, 1974, by L.E. Adams. Determined by G. Lopez. This is first record of P. sabinianae for State. S. jonesi previously reported on Scotch pine and other pine species in State. Infestations of these species were light, damage negligible. P. sabiniana caused yellowing and premature defoliation of infested needles. S. jonesi damage appeared to stunt or distort needle growth along stem. Usually both needles within fascicle affected, but occasionally one needle showed stunted or twisted growth. (Adams).

LINDEN LOOPER (Erannis tiliaria) - WISCONSIN - Taken from light traps in Dane County by R.T. Shenefelt and Juneau County (collector unknown) October 16, 1974. Determined by J.R. Baker. These are new county records. (Lovett).

A NOCTUID MOTH (Polia latex) - WEST VIRGINIA - Numerous larvae collected under burlap bands on trees in several eastern area counties on elm and maple. Berkeley County, Johnsontown, Capon Bridge, August 18, 1974, on white and red oaks. Determined by A.R. Miller. Pendleton County, Fort Seybert, August 5, 1974, on white oak. Determined by D.M. Weisman. All collected by P. Van Buskirk. These are new county records. (Hacker).

A SPHINGID MOTH (Smerinthis jamaicensis) - WEST VIRGINIA - Larvae defoliated sugar maple tree in Pullman Township, Ritchie County. Collected August 28, 1974, by J.P. Szeliga. Determined by D.M. Weisman. This is a new State record. (Hacker).

A MEMBRACID (Thelia bimaculata) - UTAH - Infested black locust at Millville, Cache County, August 2, 1974. Collected by G.F. Knowlton, R.S. Roberts, and W.J. Hanson. Determined by W.J. Hanson. This is a new State record. Several additional collections made later in August and during September at same location by G.F. Knowlton. (Roberts et al.).

WALKINGSTICK (Diapheromera femorata) - OKLAHOMA - Adult male taken on side of building in Wagoner County along northern edge on west side of Ft. Gibson Lake September 22, 1974. Collected and determined by D.C. Arnold. This is a new county record. (Okla. Coop. Sur.).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 1,253 cases reported from continental U.S. during period October 20 to November 2 as follows: Texas 1,222; New Mexico 2; Arizona 18; California 9; Oklahoma 2. Total of 1,020 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 264,473,400 as follows: Texas 236,004,600; New Mexico 6,471,200; Arizona 23,007,600; California 990,000. Total of 32,742,800 sterile flies released in Mexico. (Anim. Health).

HORN FLY (Haematobia irritans) - MISSISSIPPI - Ranged 50-60 per head of beef cattle in Oktibbeha County week ending November 1, 30-40 per head on beef cattle in Chickasaw County week ending November 8, and averaged 25 per head on cattle in Oktibbeha County week ending November 15. (Robinson). OKLAHOMA - Ranged 10-20 per head on cattle checked in Payne County week ending November 8; declined to light in Comanche County. Still light on cattle in Comanche County week ending November 15. (Okla. Coop. Sur.).

FACE FLY (Musca autumnalis) - KENTUCKY - Adults collected near cattle September 9, 1974, in Harrison County, September 11 in Fleming and Lewis Counties, September 13 in Nicholas and Robertson Counties, and September 16 in Greenup, Boyd, and Carter Counties. All collections and determinations by D.E. Barnett, all confirmations by F.W. Knapp. These are new county records. (Barnett). MISSISSIPPI - Adults averaged 2 per face on one Chickasaw County beef cattle herd week ending November 8. Many adults noted on outside of Church where flies found overwintering in 1974. (Robinson). NEVADA - Adults heavy in buildings in Humboldt area of Elko County week ending November 1. (Nichols).

HOUSE FLY (Musca domestica) - ARKANSAS - Colder weather presently occurring will result in lower populations in poultry laying houses in northwest area. M. domestica becoming problem as increasing resistance to commonly used insecticide noted. (Simco)

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Decreased to less than one per head on Payne County dairy cattle week ending November 1. (Okla. Coop. Sur.).

MOSQUITOES - OKLAHOMA - Psorophora spp. and Aedes spp. adults still heavy and annoying in some Payne County areas week ending November 1. (Okla. Coop. Sur.).

NORTHERN FOWL MITE (Ornithonyssus sylviarum) - MISSISSIPPI - Infestation light on caged layer hens in Oktibbeha County week ending November 8. (Combs).

WINTER TICK (Dermacentor albipictus) - OKLAHOMA - Very heavy on horses checked in Osage County week ending November 15. (Okla. Coop. Sur.).

MISCELLANEOUS WILD PLANTS

CLOVER CUTWORM (Scotogramma trifolii) - UTAH - Taken on desert shrubs at St. George, Washington County, May 7, 1973, by D.A. Huber. Determined by D.M. Weisman. This is a new State record. (Roberts).

SOUTHERN CABBAGEWORM (Pieris protodice) - UTAH - Observed migrating from desert shrubs to home at St. George, Washington County, May 17, 1973. Collected by D.A. Huber. Determined by D.M. Weisman. This is a new State record. (Roberts, Knowlton).

STORED PRODUCTS

CIGARETTE BEETLE (Lasioderma serricorne) - UTAH - Collected in can of paprika at Logan, Cache County, September 10, 1973, by B. Burnham. Determined by R.E. White. This is a new State record. (Roberts).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

IMPORTED FIRE ANTS (Solenopsis spp.) - TENNESSEE - All surveys negative to November 15 statewide. (Gordon, Bruer). TEXAS - Moun building by S. invicta (red imported fire ant) and other Solenopsis spp. increased during past month throughout most east and south-central counties. Rainfall responsible for increased activity. Heavy infestations noted throughout roadside in Brazos, Grimes, and Burleson Counties. (Cole, Green).

JAPANESE BEETLE (Popillia japonica) - MARYLAND - Prolonged droug during most of October expected to cause heavy mortality to grub populations. (U. Md., Ent. Dept.).

ORIENTAL FRUIT FLY (Dacus dorsalis) - CALIFORNIA - Eradication treatments continued in San Diego County with male and female annihilation techniques in effect week ending November 15. This is the third female and fifth male bait treatment. About 232,712 female bait stations and 103,183 male bait stations applied. Fly catches showed downward trend. Single immature male fly trapped in San Diego, Old Town, just south of male annihilation area and outside quarantine area. Another immature male fly trapped in College Heights about 10 miles southeast of epicenter. Weather has been favorable for pest, with daytime temperatures ranging 85 to 91 degrees. Strong east winds present all period. (Cal. Coop. Rpt.; PPQ).

PINK BOLLWORM (Pectinophora gossypiella) - NEW MEXICO - Late season survey in 6 southern Dona Ana County cotton fields week ending November 15 showed top-crop infestations of 4-100 percent. Damage in one field totaled 50 percent of total crop to some extent. Of 8 fields inspected near Artesia, Eddy County, 2 showed 4 percent, one showed 8 percent, and in one field 12 percent of checked bolls infested. (N.M. Coop. Rpt.).

SWEETPOTATO WEEVIL (Cylas formicarius elegantulus) - ALABAMA - All stages infested sweetpotatoes in 2 separate fields, one near Dothan, Houston County, and one at Lockhart, Covington County, week ending November 1. Heavy in sweetpotatoes on farm at New Brockton, Coffee County, week ending November 15. (Johnson, Wilson).

A WHITEFRINGED BEETLE (Graphognathus leucoloma fecundus) - VIRGINIA - Adults collected from wild aster along roadside near Stony Creek, Sussex County, October 9, 1974, by E.B. Drewry and C. Darden. Determined by W.F. Tate. Confirmed by R.E. Warner. This is a new county record. (PPQ).

LIGHT TRAP COLLECTIONS

ARIZONA - Mesa, 11/4-10, BL, BEET ARMYWORM (Spodoptera exigua) 164, BLACK CUTWORM (Agrotis ipsilon) 7, VARIEGATED CUTWORM (Peridroma saucia) 18, YELLOWSTRIPED ARMYWORM (Spodoptera ornithogalli) 3. FLORIDA - Gainesville, 11/8-14, BL, ARMYWORM (Pseudaletia unipuncta) 5, beet armyworm 5, black cutworm 26, BOLLWORM (Heliothis zea) 1, FALL ARMYWORM (Spodoptera frugiperda) 53, GRANULATE CUTWORM (Feltia subterranea) 52, yellowstriped armyworm 1. MISSISSIPPI - Stoneville, 11/8-14, 2BL, armyworm 26, beet armyworm 24, black cutworm 273, bollworm 13, fall armyworm 79, granulate cutworm 168, TOBACCO BUDWORM (Heliothis virescens) 2, variegated cutworm 2, yellowstriped armyworm 3.

CORRECTIONS

BEIR 24(44):843 - BENEFICIAL INSECTS - AN ICHNEUMONID WASP (Bathyplectes tristis) - KANSAS - Line 2 should read "... parasite of Hypera punctata (clover leaf weevil) ..." (PPQ).

Fruits and Ornamentals - Damage by BANANA SKIPPER (Erionota thrax) larvae still very heavy in 10+ acres of banana at Waiahole, Oahu, week ending November 1. Many adults observed throughout infested fields, nearly all leaves damaged. Releases of Ooencytus erionotae (an encyrtid wasp), an egg parasite, made on weekly basis since E. thrax infestation discovered, and appears established in area. O. erionotae observed ovipositing in E. thrax eggs and many other eggs parasitized. Parasitism still less than 10 percent. (Murai et al.). Larvae of a NOCTUID MOTH (Anua indiscriminata) caused moderate to heavy damage on strawberry guava at Aliamanu, Oahu, week ending November 8; 60-80 percent of young terminal growth damaged. (Mau).

General Vegetables - BEAN FLY (Ophiomyia phaseoli) larvae light in snap beans, long beans, and soybeans checked at Waimanalo, Oahu, week ending November 1. Surveys of beans on Maui during September showed heavy parasitism of O. phaseoli. Parasitism by Opius importatus (a braconid wasp) 100 percent at Waikapu, Puunene, and Hailemaile, and by Halticoptera patellana (a pteromalid wasp) 100 percent at Pulalani. No parasitism noted at Wailuku. (Miyahira).

Miscellaneous Insects - Several specimens of a LEAFHOPPER (Carneocephala sagittifera) taken in light trap at Waipahu, Oahu, week ending November 1; first record for Oahu. All previous collections on Hawaii Island. C. sagittifera first collected from various grasses at Kona, Hawaii Island, June 7, 1972. Taken from blacklight trap at Hilo, Hawaii Island, later. (Beardsley).

Beneficial Insects - Two larvae and one pupa of a PYRALID MOTH (Blepharomastix ebulealis) collected from Clidemia hirta (Kosters curse) along Kawaiiki Ditch Trail in Koolau Mountains on Oahu October 23, 1974. First recovery since purposely introduced in 1969 for control of C. hirta. (Au). Three larvae of a SAWFLY (Priophorus morio) collected from Rubus penetrans (wild blackberry) at Volcano, Hawaii Island, during October by C.J. Davis. First recovery since purposely introduced for control of R. penetrans in 1966. (Mau). Several specimens of a EULOPHID WASP (Prospaltella smithi) recovered from pupae of Aleurocanthus spiniferus (orange spiny whitefly) at Kapahulu, Oahu, week ending November 1. Several specimens of 3 undetermined species of Prospaltella also recovered from rose leaves infested with A. spiniferus in same area. At least 2 of these species are new to State. (Au, Funasaki). As of November 15, an ENCYRTID WASP (Ooencyrtus erionotae), an egg parasite of Erionota thrax (banana skipper), established throughout Waiahole area, Oahu. No late-instar E. thrax larvae found parasitized by a BRACONID WASP (Apanteles erionotae). Both parasites continued to do well at Maunawili; 55 percent of E. thrax eggs and 42 percent of larvae parasitized in early September. O. erionotae spreading from release sites along windward coast of Oahu; recovered in many areas where not released; parasitism ranged 10-50 percent. E. thrax damage now about nil in 15+ acres of banana at Kahuku; all stages very difficult to find. Damage heavy in summer, egg and larval parasitism less than 2 percent in June. (Mau).

New Continental United States Record - A SCOLYTID BEETLE (Xyleborus semiopacus) - SOUTH CAROLINA - Dorchester County. (pp. 863-864).

New State Records

A LEAFHOPPER (Macropsis glandacea) - KENTUCKY - Collected in Meade County June 12, 1972, by D.E. Barnett. Tentatively determined by D.E. Barnett. Confirmed by P.H. Freytag. (Barnett). This species was originally introduced from Europe and occurs throughout the Northeastern and Southeastern States and has been recorded in California. (PPQ).

A NOCTUID MOTH (Simyra henrici) - UTAH - Larvae collected at Farmington Bay Water Fowl Area, Davis County, September 7, 1972, by R.H. Dretz. Determined by D.M. Weisman. (Roberts).

AN ARMORED SCALE (Carulaspis minima) - PENNSYLVANIA - Dauphin County. (p. 856). A BARK BEETLE (Phloeosinus cristatus) - NEW MEXICO - Luna County. (p. 856). BEET ARMYWORM (Spodoptera exigua) - UTAH - Davis County. (p. 855). CABBAGE LOOPER (Trichoplusia ni) - UTAH - Cache County. (p. 854). CIGARETTE BEETLE (Lasioderma serricorne) - UTAH - Cache County. (p. 858). CLOVER CUTWORM (Scotogramma trifolii) - UTAH - Washington County. (p. 858). AN ERIOPHYID MITE (Platyphytoptus sabinianae) - PENNSYLVANIA - Clearfield County. (p. 856). A MEMBRACID (Thelia bimaculata) - UTAH - Cache County. (p. 857). A PSYLLID (Trioza tripunctata) - ALABAMA - Crenshaw County. (p. 855). SOUTHERN CABBAGEWORM (Pieris protodice) - UTAH - Washington County. (p. 858). A SPHINGID MOTH (Smerinthis jamaicensis) - WEST VIRGINIA - Ritchie County. (p. 857). A SPIDER MITE (Eotetranychus smithi) - FLORIDA - Jefferson County. (p. 855). A TORTRICID MOTH (Archips rosanus) - UTAH - Salt Lake County. (p. 856). A WEEVIL (Curculio nanulus) - UTAH - Salt Lake County. (p. 855).

New County and Island Records - AN ARMORED SCALE (Carulaspis minima) PENNSYLVANIA - Berks, Blair, Bucks, Cumberland, York (p. 856). COTTON LEAFPERFORATOR (Bucculatrix thurberiella) OKLAHOMA - Jackson (p. 855). EUROPEAN CORN BORER (Ostrinia nubilalis) TENNESSEE - Meigs, Rhea, Bradley (p. 852). FACE FLY (Musca autumnalis) KENTUCKY - Harrison, Fleming, Lewis, Nicholas, Robertson, Greenup, Boyd, Carter (p. 857). GRAPE BERRY MOTH (Paralobesia viteana) UTAH - Utah (p. 855). A LEAF-HOPPER (Carneocephala sagittifera) HAWAII - Oahu (p. 860). LINDEN LOOPER (Erannis tiliaria) WISCONSIN - Dane, Juneau (p. 856). NAVEL ORANGEWORM (Paramyelois transitella) NEW MEXICO - Chaves (p. 855). A NOCTUID MOTH (Polia latex) WEST VIRGINIA - Berkeley, Pendleton (p. 857). RANGE CATERPILLAR (Hemileuca oliviae) NEW MEXICO - Guadalupe (p. 853). SOUTHWESTERN CORN BORER (Diatraea grandiosella) TENNESSEE - Blount, Hamblen, Jefferson, Loudon, Bledsoe, Overton, Putnam, Meigs (pp. 851-852). KENTUCKY - Green, Larue (p. 852). WALKINGSTICK (Diapheromera femorata) OKLAHOMA - Wagoner (p. 857). A WHITEFRINGED BEETLE (Graphognathus leucoloma fecundus) VIRGINIA - Sussex (p. 859).

Weather of the week continued from page 850.

Wednesday, cold air and a vigorous weather system combined to drop snow over sections of the mid and upper Mississippi Valley, the Great Lakes, and northern Ohio Valley. Five inches of snow covered the ground at Moline, Illinois, and 4 inches whitened the landscape at Peru, Indiana. Parts of Iowa and southern Minnesota got 2 to 3 inches. Thursday, a cold blast of Canadian air produce snow showers in the Great Lakes region and across the upper Mississippi Valley to the lower Missouri Valley. The greatest depth reported was 2 feet at Ironwood, Michigan. Gusty winds swirling around a Low pressure center over the Hudson Bay gradually swept moisture from the warm waters and deposited it in the form of snow along the Great Lakes on Friday. Buffalo, New York, got 1 foot of snow while Grand Rapids and Lansing, Michigan, reported 5 inches. Most of the Nation's eastern half was clear. Saturday, warm dry air blowing eastward across the Great Lakes halted the locally heavy snows in the lower Great Lakes region. Elsewhere, rain showers developed from Kansas into west-central Illinois, Arkansas, and the Texas Panhandle. A Pacific cold front invaded the north Pacific coast Sunday morning. Shortly before daybreak, rain began in northwest Washington and gradually inched down through northern California during the day. Another frontal system over the gulf caused rain, drizzle, and a few thundershowe from eastern portions of Texas and Oklahoma to the south Atlantic coast.

TEMPERATURES: Bitter cold gripped the Nation last week with freezing temperatures reaching almost to the gulf coast. Monday, predawn temperatures east of the Rockies ranged from the 20's and 30's in the northern Plains and North Atlantic States to the 60's along the gulf coast. Elsewhere, a large High pressure system continued to build over the West and Southwest. Sunshine and warm winds pushed temperatures 15 to 20 degrees above normal along the southern California coast. A few spots in the northern and centra Rockies and west-central Plains dipped into the teens on Tuesday. In the Great Basin and northern Plains the 20's prevailed, and along the Atlantic, Pacific, and gulf coasts, the 40's and 50's were common, while southern Florida held in the 60's. The coldest afternoon temperature was 26 degrees at Duluth, Minnesota, and Minot, North Dakota. Wednesday afternoon, the southern California coastal area was the warmest section of the Nation. Meanwhile, th thermometer remained below the freezing mark between the northern Rockies and the Great Lakes. Unseasonably cold air invaded parts of the South Thursday, where afternoon temperature in Columbus, Mississippi, hovered in the thirties. In contrast, Miami, Florida reported the warmest temperature in the Nation--the mild 80's. Friday, only the Desert Southwest and the Florida Peninsula reach the 70's and 80's. Most other parts of the Nation were near norma with highs in the 40's and 50's. The coolest temperatures in the country on Saturday afternoon were in northern Maine, the upper Mississippi Valley, and the western Great Lakes region where temperatures were in the 30's. Sunday, high temperatures across the Nation ranged from the 30's in northern New England and northern portions of the Rockies and Plateau to the 80's in the Florida Peninsula.

First Record of Xyleborus semiopacus in the Continental United States (Coleoptera, Scolytidae)

D.M. Anderson 1/

yleborus semiopacus Eichhoff (fig. 1) is an ambrosia beetle very idely distributed in Africa, southern Asia, Indonesia, and the slands of the Pacific (Wood, 1960, Schedl, 1962), including the awaiian Islands, where it was first reported by Van Zwaluenberg n 1956. It has not hitherto been found in the continental United tates or elsewhere in the Americas. Accordingly, it is of nterest to record that among some Scolytidae sent to me for dentification by D.L. Stephan, North Carolina State University t Raleigh, were 2 specimens of Xyleborus semiopacus that had een taken from a dead or dying sweetgum graft at Summerville Dorchester County), South Carolina, on May 10, 1974, by J.P. artin. Since this record is based upon a collection made in a atural situation, it would seem to indicate the introduction and robable establishment of still another foreign species of yleborini. Three other species of Xyleborini, including ylosandrus germanus (Blandford), Xylosandrus compactus (Eichhoff), nd Xyloborus rubricollis Eichhoff, are definitely known to have een introduced into the United States, according to Bright (1968).

ynonyms of Xyleborus semiopacus, listed by Schedl (1962), include yleborus semigranosus Blandford, X. mascarensis Hagedorn, X. engalensis Stebbing, X. okoumeensis Schedl, and X. declivigranuatus Schedl. As is true of many other species of Xyleborini, he recorded hosts of X. semiopacus include a great variety of oody plants. These hosts, listed by Schedl (1962), include repreentatives of 41 plant families and of some genera (e.g. Celtis, uercus, Castanea) represented in North America. This species urrows deeply into the wood of its hosts (fig. 2), as do most ther ambrosia beetles. In one instance cited by Schedl (1962), ontrol measures were recommended to prevent damage to timber by . semiopacus, but the species has apparently never become a major ood pest.

his species resembles some of the other stout-bodied species of yleborini in North America, but it can be distinguished from hem by the large, opaque and rather granulate area covering most f the posterior half of the elytra, as in fig. 1 and in the color igure presented by Nakane et al. (1963).

Ed. Note: Xyleborus semiopacus has been intercepted at least 3 times in baggage, cargo, and mail during preflight inspections in Hawaii since 1955.

/ Systematic Entomology Laboratory, IIBIII, ARS, USDA, Washington, D.C. Mail address: c/o U.S. National Museum, Washington, D.C. 20560

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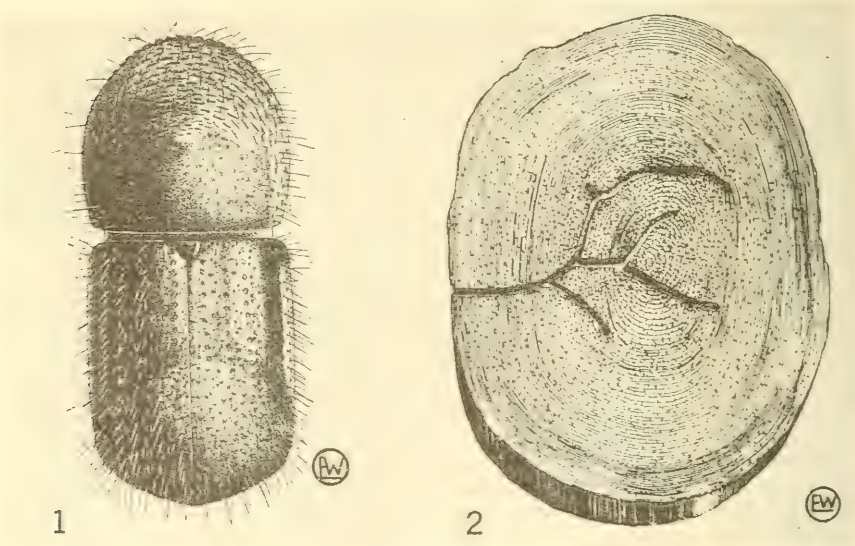

Figure Legends

Fig. 1. Xyleborus semiopacus, female, dorsal view. Actual lengtl 1.9-2.5 mm. Fig. 2. Woody stem in cross-section, showing tunnels of X. semiopacus. (Both figures are from Schedl, 1962)

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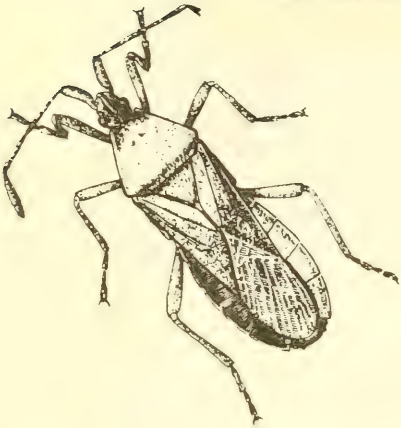

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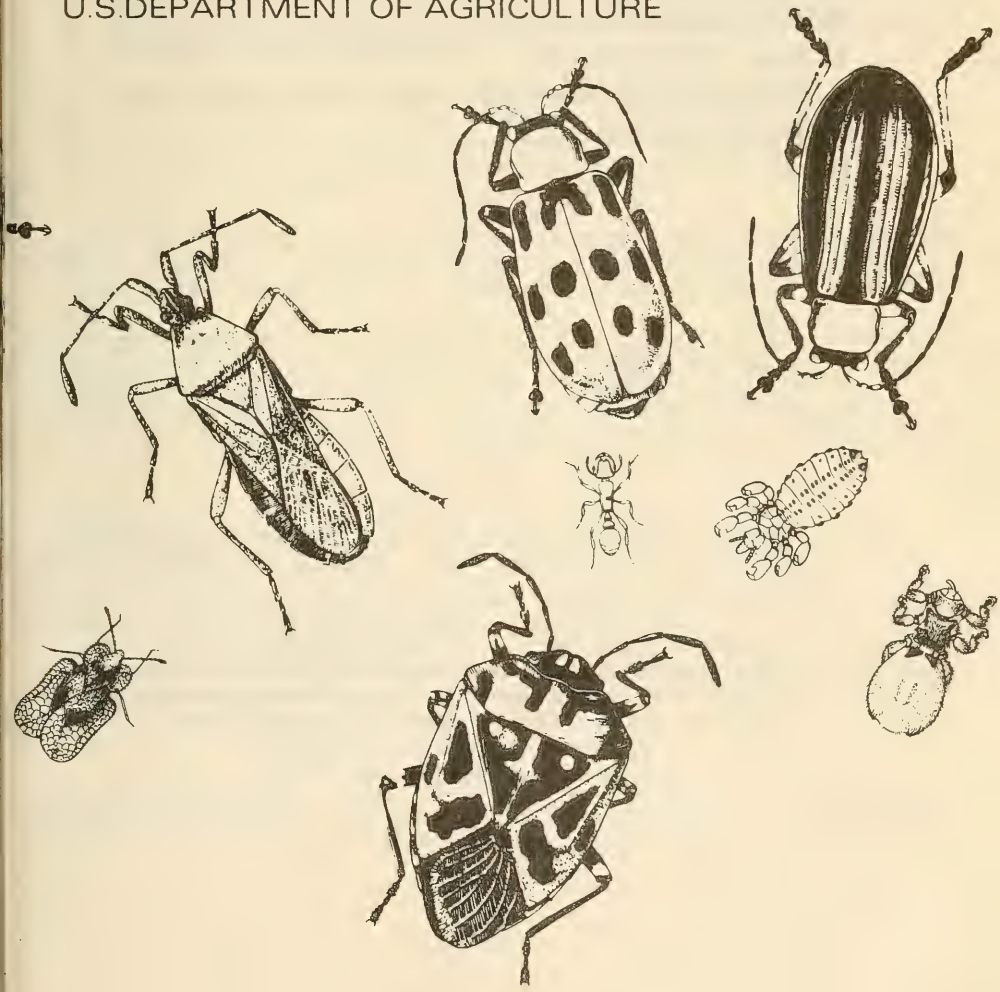

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 24 December 20, 1974 Numbers 49-52

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

GREENBUG activity generally light on small grains in south-central area. (p. 867).

PEAR PSYLLA overwintering generation in pear orchards of Hood River Valley in Oregon one of largest in recent years. (p. 869).

SOUTHERN PINE BEETLE population in Virginia expected to be heavy in 1975. (p. 870).

Detection

- AN APHID reported from "moss" in Utah is a new United States record. This European species reported from grasses on that continent. (pp. 872-873).

- A LEAFHOPPER reported as new to Hawaii is a new United States record, but is not known to occur in continental U.S. This leafhopper has been recorded in Africa, Polynesia, Central America, the Philippines, and western Caroline Islands. (p. 875).

- A THRIPS collected in Florida is a new United States record. It is one of the major thrips pests in India and has been reported to cause some damage to cotton in Sudan. (p. 873).

New State records include APHIDS in Virginia (p. 869), Idaho (p. 872), and North Carolina (p. 872), a BARK BEETLE in Colorado (p. 871), a CLICK BEETLE in Hawaii (p. 875), a LADY BEETLE in Alabama (p. 873), MEALYBUGS in Oregon (p. 870) and Indiana (p. 871), RED WAX SCALE in Pennsylvania (p. 870), a TACHINA FLY in Michigan (p. 874), and a WEEVIL in North Dakota (p. 869).

For new county records see page 876.

Special Reports

The U.S. Military Retrograde Cargo Inspection Program in the Republic of Viet-Nam: 1969-1973. (pp. 877-880).

Estimated Losses and Production Costs Attributed to Insects and Related Arthropods - 1973. (pp. 881-903).

Reports in this issue are for weeks ending November 22 through December 13 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING DECEMBER 16

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: A series of weather systems moving through southern Canada spread warm Pacific air over the northern tier of States and the central Great Plains during the week. The greates departure occurred in the North Central States where average weekly temperatures were 12 to 13 degrees above normal. A Low pressure center formed in the northwest Gulf of Mexico late Tuesday, triggering widespread rains across the Southern and Southeastern States before drifting off the central United Satates coast Friday.

PRECIPIATION: The series of weather systems moving through southern Canada produced heavy rains along the Pacific Northwest coast. Rains measuring 3 to 4 inches fell along the Washington Coast, with lesser amounts reported along the Oregon and California coasts. Elsewhere, heavy precipitation associated with the Low over the gulf of Mexico soaked the South and Southeast with rains averaging over 1 inch. This spread rain as far north as southeastern Kansas. Monday, another in a series of northern Pacific weather fronts triggered rain on the Washington Coast. A slow-moving storm system triggered rain, drizzle, and snow across Texas, New Mexico, and Oklahoma on Tuesday. Wednesday, a complex storm system from the gulf coast moved northeastward into Texas and northern Louisiana. Snow fell over Oklahoma and Kansas with rain and thundershowers reported over the middle and lower Mississippi Valley. Early morning snowfall amounts included: 4 inches at Hobart, Oklahoma; 2 inches at Oklahoma City, Oklahoma; and 1 inch at Wichita, Kansas. A wintery storm system stretching across the northern U.S. produced rain over parts of the lower Northeast and snow over New England, the northern Plains, and upper Great Lakes on Thursday. Minot, North Dakota, reported 3 inches with 2-inches accumulations reported at Bemedji, Minnesota and Rumford, Maine. Weather of the week continued on page 904.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

CORN LEAF APHID (Rhopalosiphum maidis) - TEXAS - Ranged 75-125 per drill row foot in Motley County small grains week ending December 6. (Green). NEW MEXICO - Ranged 25-30 per linear foot in one wheatfield near Portales, Roosevelt County, week ending December 13. (N.M. Coop. Rpt.).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Counts ranged 0-3 per linear foot of wheat near Clovis, Curry County, week ending November 29, and near Portales, Roosevelt County, week ending December 13. (N.M. Coop. Rpt.). TEXAS - Activity generally light on small grains in Rolling Plains area week ending November 22. Moderate in some fields in Knox, Jones, and Motley Counties; treatments made in parts of these counties. (Boring). Light in wheat in Archer, Baylor, Childress, Motley, Shackelford, Throckmorton, Wichita, Wilbarger, and Young Counties week ending December 6. Ranged 50-100 per drill row foot in Motley County ryefields; some treatment made in Motley and Knox Counties. (Green).

OKLAHOMA - S. graminum ranged 75-100 per linear foot in scattered wheatfields checked in Harper County week ending November 22. Damage due mostly to leaf rust. Scattered heavy infestations noted in Comanche County. Ranged 1-43 per linear foot in 19 fields checked in Payne, Noble, Kay, Garfield, Logan, Kingfisher, and Blaine Counties. Only 6 of these fields averaged above 10 per linear foot. Light in Texas County. Counts per linear foot week ending November 29 as follows by counties: Caddo, Washita, and Canadian 20-30; Payne 6-15; Kiowa and Jackson 0-9. Ranged up to 28 per linear foot in wheat checked in Washita and Caddo Counties week ending December 6. Light in Garfield County. Ranged up to 30 per linear foot in Caddo and Washita Counties, 20-25 per linear foot in Custer County, and 2-6 per linear foot in Payne County week ending December 13. (Okla. Coop. Sur.).

ARKANSAS - None observed during limited greenbug survey of wheat in Washington County week ending November 22. Still light in scattered east-central and northeast area wheat. (Boyer). KANSAS - Ranged none to light in wheat 3-6 inches tall in Hodgeman, Ford, Edwards, Kiowa, and Pawnee Counties week ending November 22. Heaviest counts 3 per drill row foot in Kiowa County. (Bell). No damaging infestations noted in wheat surveyed; about 9 per drill row foot found in Wabaunsee, Shawnee, and Mitchell Counties week ending December 6. (Bell).

CORN, SORGHUM, SUGARCANE

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - NEW MEXICO - Larvae ranged 2-4 per cornstalk near Clayton, Union County, and 3 per 4 stalks taken near Carlsbad, Eddy County, week ending November 22. These populations heavier than previous years. Infested 75 percent of cornstalks in Roosevelt and Chaves Counties week ending November 29. (N.M. Coop. Rpt.).

SMALL GRAINS

WINTER GRAIN MITE (Penthaleus major) - TEXAS - Infestations noted in Haskell and Throckmorton Counties week ending November 22; heavy in one oatfield. (Boring). Light to moderate in several small grain fields in Knox, Haskell, and Throckmorton Counties week ending December 6. (Green). OKLAHOMA - Very light in wheat in Kiowa and Jackson Counties during week ending November 29. Ranged 25-30 per linear foot in wheat week ending December 6 in Caddo and Washita Counties; averaged 40 per linear foot following week. (Okla. Coop. Sur.).

AN APHID (Rhopalosiphum padi) - KANSAS - Occasionally light in wheat in Ford and Edwards Counties week ending November 22. Heaviest count 20 per drill row foot in Ford County. None found in wheat in Pawnee, Kiowa, and Hodgeman Counties. Commonly light in wheat; occasionally moderate. Heaviest count noted at 37 per drill row foot in 7-inch Lincoln County wheat and 15 in 8-inch wheat in Saline County week ending December 6. (Bell). OKLAHOMA - Light in most wheat in Payne, Noble, Kay, Garfield, Logan, Kingfisher, Blaine, Muskogee, and Wagoner Counties week ending November 22. Averaged 40 per linear foot in wheat in Washita, Caddo, and Canadian Counties week ending November 29; ranged 1-18 in Payne County. Ranged up to 30 per linear foot in wheat in Caddo and Washita Counties week ending December 6. Ranged 4-9 per linear foot in Payne County wheat week ending December 13. (Okla. Coop. Sur.). MISSISSIPPI - Populations began to become established on rye and wheat winter grazing in Oktibbeha and Noxubee Counties week ending November 29. (Robinson).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - ILLINOIS - Adults ranged 55-141 (average 106) per 100 sweeps in 4 Jersey County alfalfa fields week ending November 22. (Ill. Ins. Rpt.). MISSOURI - Adults ranged 0-14 per 10 sweeps in southwest area alfalfa week ending November 29. (Munson). KANSAS - Oviposition continuing at substantial rate in Riley and Pottawatomie Counties week ending November 22. Field of 13-inch alfalfa in Riley County averaged 375 eggs per square foot in samples taken November 4, yielded 625 eggs in samples taken November 20. Field of 12-inch alfalfa in Pottawatomie County had 25 eggs per square foot October 30 and 280 November 18. Eggs averaged 23 per square foot in 12-inch alfalfa in Pawnee County, 17 in 12-inch alfalfa in Ford County, and none in 8-inch alfalfa in Finney County sampled November 19. Eggs averaged 280 per square foot in 12-inch Saline County alfalfa and trace in 10-inch Republic County alfalfa week ending December 6. (Bell).

ARKANSAS - Survey negative for alfalfa weevil in northwest area alfalfa weeks ending November 22 and 29, and December 13. (Boyer). OKLAHOMA - Eggs averaged 29 per square foot in one alfalfa field in Payne County November 7, and 76 and 120 per square foot in 2 fields in Stephens County November 14. (Okla. Coop. Sur.).

MISCELLANEOUS FIELD CROPS

A WEEVIL (Apion occidentale) - NORTH DAKOTA - Adults collected from sunflower in Ransom County July 29, 1974, by P. Casals. Determined by R.E. Warner. This is a new State record. (Schulz).

DECIDUOUS FRUITS AND NUTS

PEAR PSYLLA (Psylla pyricola) - OREGON - Overwintering generation in Hood River Valley, Hood River County, one of largest in recent years. Up to 37 per tray observed in pear orchards November 26. (Zwick, Fields).

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Damage to pecans in untreated orchards more evident in Covington County as nut harvest continued week ending December 6. Infestation heavy in most orchards and trees. (Linder).

PECAN WEEVIL (Curculio caryae) - ALABAMA - Damage to pecans in untreated orchards more evident in Covington County as nut harvest continued week ending December 6. Infestation heavy in most orchards and trees. (Linder). TEXAS - Heavy damage noted week ending December 6 in following counties (percentage in parentheses): Comanche (35-40), Hamilton (30-71), Erath (15-40). (Green).

CITRUS

CALIFORNIA RED SCALE (Aonidella aurantii) - CALIFORNIA - Heavy in some navel orange groves at Oroville, Butte County, week ending December 13. Infestation following same pattern as in other areas of State regarding "expoloding" populations. This scale insect particularly damaging in 1974. (Cal. Coop. Rpt.).

WOOLLY WHITEFLY (Aleurothrixus floccosus) - CALIFORNIA - Observed on grapefruit tree near old insectary building at Rivera, Los Angeles County, December 6, 1974, by G. Mork, G. Maxwell, and W. Edwards. Determined by R. Gill. This is a new county record. Delimitation in county now confirms 173 properties in 15-square-mile area. Some infestations very heavy. Delimiting not yet completed. This infestation 100+ miles from San Diego County where A. floccosus previously known to occur. Infestations reaching peak in several San Diego County areas week ending December 13. Detected on navel orange trees in 15-gallon tubs in nursery at Anaheim, Orange County. (Cal. Coop. Rpt.).

ORNAMENTALS

SPIREA APHID (Aphis spiraecola) - NEW JERSEY - Collected on Pyracantha sp. on Sutton Road in Lebanon, Hunterdon County, July 29, 1973, by D.D. Leonard. Determined by M.D. Leonard. This is a new county record. (Leonard).

AN APHID (Cinara junipivora) - VIRGINIA - About 15 apterae and nymphs collected on Juniperus sp. at Vienna, Fairfax County, June 1, 1973, by L.G. Davis. Determined by M.D. Leonard. This is a new State record. (Leonard).

RED WAX SCALE (Ceroplastes rubens) - PENNSYLVANIA - Collected on Dieffenbachia sp. in greenhouse at York, York County, October 3, 1974, by W. Blosser and K. Valley. About 6 scales per leaf found on one plant. Determined by J.F. Stimmel. This is a new State record. (Henry).

A MEALYBUG (Rhizoecus pritchardi) - OREGON - Found infesting several African violet plants (Saintpaulia sp.) in greenhouse at Central Point, Jackson County. Specimens collected October 21, 1974, by J.W. McLoughlin. Determined by R.J. Gill. This is a new State record. This mealybug is considered to be a serious pest of Saintpaulia, but grower has never detected any apparent damage. The species has been recorded also from California, Florida, Maryland, New York, and Pennsylvania. (Westcott, McLoughlin).

A MEMBRACID (Antianthe expansa) - CALIFORNIA - Nymphs occurred on jasmine plants at 10 per stem at Chula Vista, San Diego County, week ending November 22. Pest increasing in importance as it is extending its hots range. This is native to South America and has been problem in State for past 2-3 years. (Cal. Coop. Rpt.).

FOREST AND SHADE TREES

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - VIRGINIA - Recent field examinations in Lunenburg, Halifax, Surry, Sussex, Nansemond, and Isle of Wight Counties showed universally healthy beetle brood in all spots checked. Some woodpecker activity evident in most spots, but due to extensive nature of current outbreak, impact of these predators on reducing overwintering beetle brood will be lessened. Clerid beetle larvae noted in exceptionally heavy populations in Coastal Plain counties. D. frontalis population expected to be heavy in 1975. During October 1974, gross acreage of 897,000 acres surveyed from air to detect new spot infestations; 490 spots ground visited; salvage during October estimated at 1.5 million board feet and 8,190 standard cords. Extension of D. frontalis outbreak on Glenwood and Pedlar Districts of Neweastle District (Craig County) on U.S. National Forest reported in September. Virginia Division of Forestry personnel cooperated in locating and obtaining private landowner permission for U.S. Forest Service to fell and treat infested trees in several small spots near National Forest boundary. (Va. Div. For., For. Pest Sur. Rpt., Oct.). TENNESSEE - Collected from a 17-year-old unthinned loblolly pine stand in Giles County November 25, 1974, by T. Shires and E. Watson. Determined by B. Kauffman. This is a new county record. Infestation involves 3 spots with 5-10 trees per spot, treatments to be applied. (Gordon, Bruer).

BARK BEETLES (Ips spp.) - ALABAMA - All stages of I. grandicollis heavily infested pine in 200-acre clear-cut and bulldozed areas in Lee County week ending December 13. Emerging adults not expected to migrate due to plentiful supply of damaged trees. Also, feeding and breeding expected to decrease due to winter temperatures. (McQueen). COLORADO - Adult specimens of I. sulcifrons collected from Engelmann spruce (Picea engelmanii) at San Isabel, Custer County, September 28, 1967, by J.F. Chansler. Determined by D.M. Anderson. This is a new State record. Previously recorded from New Mexico and Utah. (PPQ).

DOUGLAS FIR TUSSOCK MOTH (Orygia pseudotsugata) - NEW MEXICO - Detailed survey in Sante Fe, Sante Fe County, week ending November 22 showed 110 trees involved. General movement of infestation appears to be eastward. Outbreak in Los Alamos, Los Alamos County, involves 70 trees at present time. Defoliation in both cases ranged 5-95 percent. Population levels appear to be on increase but rather slow at present. (N.M. Coop. Rpt.).

FALL CANKERWORM (Alsophila pometaria) - WEST VIRGINIA - Tree banding with tanglefoot in Dolly Sods area of Grant County November 21 trapped 37 females on 16 trees. Total of 549 males trapped on same 16 trees. Females ranged 0-10 per tree. On November 30, tree banding in Mount Storm area, Grant County, trapped 103 females on 3 trees; ranged 7-57 per tree. Males totaled 203 on same 3 trees. (Hacker).

A MEALYBUG (Eurycoccus jessica) - INDIANA - Collected from hickory at agronomy farm in Tippecanoe County July 30, 1974, by D.L. Caldwell and D.L. Schuder. Confirmed by D.R. Miller. This is a new State record for this pseudococcid. Specimens were scarce; only 4 found after diligent search. (Schuder).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 749 cases reported from continental U.S. during period November 3-30 as follows: Texas 731, New Mexico 1, Arizona 6, California 3, Oklahoma 8. Total of 1,079 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 318,660,500 as follows: Texas 294,180,500; New Mexico 873,000; Arizona 15,417,000; California 8,190,000. Total of 243,323,500 sterile flies released in Mexico. (Anim. Health).

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Ranged 0-27 per head in backs of a herd of 7 to 8-month-old calves in Major County November 16. Ranged 0-13 (average 7) per head in Payne County cattle week ending November 29; increased to 30 per head 14 days later. Heavy in herd of Comanche County cattle same period. Light in Hughes County cattle week ending December 6. Moderate in Haskell County cattle week ending December 13. (Okla. Coop. Sur.).

FACE FLY (Musca autumnalis) - KENTUCKY - Adults taken in Carroll, Trimble, and Owen Counties September 18, 1974, and September 24, 1974, in Spencer, Anderson, and Jefferson Counties. Collected and determined by D.E. Barnett. Confirmed by F.W. Knapp. These are new county records. (Barnett). MISSISSIPPI - No adults noted on cattle in Monroe and Chickasaw Counties week ending November 22. Many observed on sunny sides of building. Adults emergenced from overwintering sites 14 days later, rested on buildings during warmer parts of day. Some adults, up to 4 per face, noted on one Chickasaw County herd during warmer periods. This is latest time of year species observed on cattle in State. (Robinson).

HORN FLY (Haematobia irritans) - FLORIDA - Adults averaged 25 per animal on beef cattle at Gainesville, Alachua County, December 11. (Fla. Coop. Sur.). MISSISSIPPI - Adults light, ranged up to 10 per animal, on cattle in Oktibbeha and Noxubee Counties week ending November 22. Adults active only in warmer hours of day. Inspection negative on Oktibbeha County cattle following week. (Robinson). OKLAHOMA - Light, ranged 10-25 per head, on Payne County cattle week ending November 22. (Okla. Coop. Sur.).

MOSQUITOES - KENTUCKY - Adult specimens of Psorophora ferox taken in light trap September 30 by F.W. Knapp in Marshall County. Determined by D.E. Barnett. Confirmed by C. Covell, Jr. One female Aedes vexans taken October 8-15, 1974, in Bourbon County malaise trap. Collected and determined by P.H. Freytag. Confirmed by D.E. Barnett. These are new county records. (Barnett).

HOG LOUSE (Haematopinus suis) - MISSISSIPPI - Increased on hogs in Oktibbeha County week ending December 13. Averaged 6 per head on sows and boars. (Robinson).

CATTLE TAIL LOUSE (Haematopinus quadripertusus) - FLORIDA - Adults averaged 25 and eggs 50 per animal on 24 beef cows and calves at Gainesville, Alachua County, November 21. (Fla. Coop. Sur.).

MISCELLANEOUS WILD PLANTS

AN APHID (Jacksonia papillata Theobald) - UTAH - Collected from "moss" in Logan Canyon, Cache County, September 6, 1959, by G.F. Knowlton. Determined by V. Eastop. This is a new United States record, and first report for North America. Additional specimens collected from "moss" in Cache County at Millville September 21, 1973, Blacksmiths Fork Canyon August 16, 1974, and Logan Canyon during May, September, and October 1974 by G.F. Knowlton were determined by C.F. Smith. IDAHO - Collected from "moss" in Cub River Canyon, Franklin County, September 8, 1959, by G.F. Knowlton. Determined by V. Eastop. This is a new State record. Collected from "moss" at Riverdale, Franklin County, August 18, 1974. Collected and determined by C.F. Smith. NORTH CAROLINA - Collected from "moss" on Mount Mitchell in Yancey County and on Roan High Knob in Mitchell County August 25, 1973, by C.K. Smith and C.F. Smith. Determined by C.F. Smith. This is a new State record. Also taken on Roan High Knob October 2, 1973, by same collectors.

V. Eastop has stated "papillata lives at base of grasses, particularly Festuca rubra. Seems to like cool, damp conditions." F.B. Muller (1973, Aphiden on Moosen. Entomologische Abhandlungen Band 39, Nr. 3, p. 240) states "Perhaps the latter species

(Jacksonia papillata) feeds at least occasionally on mosses, for no less than 7 samples from which J. papillata had been extracted contained no other plants besides mosses." C.F. Smith states in correspondence "All of the North American specimens I have seen were collected from moss using a modified Berlese funnel. I have never seen it feeding on grasses or moss. It is very difficult to obtain a pure sample of a moss, therefore I am willing to accept the word of the numerous European workers who have collected papillata from grasses." (C.F. Smith).

AN APHID (Aphis rumicis) - VIRGINIA - Many collected on Rumex crispus (curly dock) in Arlington County May 27, 1973, by H.H. Shepard. Determined by M.D. Leonard. This is a new county record. (Leonard).

A THRIPS (Frankliniella schultzei (Trybom)) - FLORIDA - Pale form (=F. sulphurea Schmutz, F. dampfi Priesner, F. delicatula Bagnall) collected on Richardia sp. at Miami, Dade County, October 17, 1974, by F.D. Mathews and by sweeping November 14, 1974, by F.D. Mathews and B.K. Dozier. There is a lot in the U.S. National Museum collected on miscellaneous composite flowers in 1950 on Big Pine Key, but this record apparently has not been published. Determined by S. Nakahara. These 3 collections are first report of F. schultzi in continental United States.

Except for differences in coloration, L.A. Mound (1968. Bul. Brit. Mus. (Nat. Hist.) Ent. sup. 11:39) was not able to find any morphological differences between the pale form and F. schultzei (dark form =F. interocellaris Karny (synonymy incomplete)). He concluded that they were color differences of a single species, F. schultzei.

F. schultzei is a polyphagous species. The dark form is a vector of tomato-spotted wilt virus, but according to K. Sakimura (1969. Pacific Insects 11:761-762) the pale form (F. sulphurea) was not a vector of this virus in Hawaii. T.N. Ananthakrishnan (1971. J. Sci. Indus. Res. 30:113-146) states that F. dampfi (pale form) is one of major thrips pests in India. J.W. Gentry (1965. U.S. Dept. Agr. Hbk. 273, p. 60) reports some damage to cotton in Sudan by F. dampfi. The pale form of F. schultzei has been reported from Italy, Egypt, Sudan, Uganda, Kenya, Somalia, Senegal, Israel, Iran, and the Indo-Malay-Papua-Oceana area including Hawaii. Since 1931, there have been more than 74 interceptions of F. schultzei at U.S. ports of entry from Australia, Africa, South America, and India. (Nakahara).

BENEFICIAL INSECTS

LADY BEETLES - OKLAHOMA - Hippodamia convergens (convergent lady beetle) ranged 0.2-0.4 per linear foot in Payne County wheat week ending December 13. (Okla. Coop. Sur.). ALABAMA - Lindorus lophanthae adults and larvae heavy on mulberry tree at Hartselle, Morgan County; fed on heavy population of undetermined scale insect. Collected September 23, 1974, by H. Houston. Determined by R.D. Gordon. This is a new State record. H. convergens adults and larvae active on heavy aphid population in trees at Auburn, Lee County, in spite of low temperatures of 28-32 degrees F. past several weeks. (McQueen).

A TACHINA FLY (Compsilura concinnata) - MICHIGAN - Taken from pupated Anisota stigma (spiny oakworm) larvae in Isabella County August 1, 1974. Collected by R.J. Priest. Determined by C.W. Sabrosky. This is a new State record. (Hanna).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

JAPANESE BEETLE (Popillia japonica) - MARYLAND - Grubs light to moderate (3-12 per square foot) in Montgomery County turf. Grubs moved down in soil to average depth of 4 inches week ending November 29. (U. Md., Ent. Dept.).

ORIENTAL FRUIT FLY (Dacus dorsalis) - CALIFORNIA - Fly catches light in San Diego County, ranged 1-2 per day week ending November 22. Male and female annihilation treatments continued. Trapping at eradication level favorable. One fly trapped about halfway between epicenter and College Heights find of week ending November 15. These considered "fly outs" and not established infestations. Weather favorable for flies. Cool weather predicted and should aid in eradication program. Eradication efforts continued week ending November 29. Fly catches decreased to one specimen taken November 19. Male and female annihilation techniques and intensive trapping continued week ending December 6. No additional specimens taken during intensive trapping in Spring Valley area where single female fly previously taken. All trapping results negative since November 22 except for November 27 when 3 adults trapped in epicenter. (Cal. Coop. Rpt.).

PINK BOLLWORM (Pectinophora gossypiella) - NEW MEXICO - Surveys in Carlsbad area of Eddy County week ending November 22 showed infestations in 7 cotton fields as follows: 4 percent in one field, 12 percent in 2 fields, 32 percent in 2 fields, 48 percent in one field, and 92 percent in one field. These infestations indicate top crop damage. (N.M. Coop. Rpt.). CALIFORNIA - Adult catches decreased in San Joaquin Valley week ending December 6 due to inclement weather and early cotton harvest. Plowup and shredding continuing before rain halts operations. Adults captured in Kern, Fresno, Kings, Tulare, and Madison Counties. About 369 native moths trapped this season using gossyplure. All detection for larvae negative this season in San Joaquin Valley. Intensified sterile moth drop continued throughout season and ended November 16 with total of 37,110,850 sterile moths released in focal centers of native moth catches. (Cal. Coop. Rpt.).

RED IMPORTED FIRE ANT (Solenopsis invicta) - TEXAS - This species and S. geminata (fire ant) heavy in several south-central counties week ending November 22. Much S. geminata activity noted. Significant heavy infestations noted around roadways in Brazos County. (Cole, Green).

WHITEFRINGED BEETLES (Graphognathus spp.) - VIRGINIA - G. leucoloma fecundus adults collected in Sussex County October 9, 1974, and in Prince George County October 16, 1974, by E.B. Drewery and C. Darden. TENNESSEE - G. leucoloma striatus adult collected on sidewalk at Gorlinburg, Sevier County, July 15, 1974, by K. Elliot. TEXAS - G. peregrinus adults collected on shrubbery at residence in Corsicana, Navarro County, August 16, 1974, by R.L. Luckey. All determinations by R.E. Warner. These are all new county records. (PPQ).

New State Records - Several specimens of a CLICK BEETLE (Meristhus sp.) collected from blacklight traps at Kunia, Oahu, August 5, 1974, by J.W. Beardsley. Four specimens collected later in light traps at Honouliuli and Waipahu. Determined by T.J. Spilman. World distribution unknown. This is first record of genus in State. (Beardsley). Meristhus sp. is known from several locations in the continental U.S. (PPQ). Six specimens of a LEAFHOPPER (Balclutha rufofasciata Merino) found in blacklight trap catches at Honolulu International Airport, Oahu, December 4, 1974, by J.W. Beardsley. Species of Balclutha are known to be polyphagous grass feeders. Determined by J.W. Beardley. B. rufofasciatus occurs in Africa, Polynesia, Central America, the Philippines, and western Caroline Islands (Yap and Palau). (Mau). This is a new United States record, but B. rufofasciatus is not known to occur in the continental U.S. (PPQ).

General Vegetables - An adult of a SPHINGID MOTH (Theretra nessus) collected at Kokee, Kauai, November 7, 1974, by J. Wilson; 12 larvae collected on yam leaves (Dioscarea sp.) at Kaumakani by R. Mau and D. Melendez during week ending November 22. Pest established for new island record on Kauai. Numerous adults collected on Oahu past 30 days, but no larvae or breeding sources found. During week ending November 27, 30+ larvae collected from yam at Kaumakani, Kauai; appeared numerous. Survey negative on Oahu. (Ragasa et al.).

Fruits and Ornamentals - Reports week ending November 22 indicated BANANA SKIPPER (Erionota thrax) infests banana throughout Kauai, from Mana through Haena. Egg and larval parasites to be released on regular basis. Moderate infestation found in 18 acres of banana at Kaneohe, Oahu, week ending November 27. About 60 percent of trees infested, 20 percent of foliage damaged. Damage appears to be increasing in area, parasites released periodically. (Melendez, Mau). Two adults of OLEANDER HAWK MOTH (Deilephila nerii) taken in blacklight traps at Halawa and Hickam Air Force Base, Oahu, first week of December. First record of moths in light traps in about 3 months since species first found on Oahu. Light larval damage found on 7 crape jasmine trees (Ervatamia divaricata) at Salt Lake, Oahu, by J. Kajiwara. This is third host recorded in State; other 2 are oleander and Tahitian gardenia. (Kajiwara et al.).

Beneficial Insects - Sixteen adults of an ICHNEUMON WASP (Scenocharops sp.), a larval parasite of Erionota thrax (banana skipper) from Malaysia, released at Waiahole, Oahu, November 1, 1974. (Murai). Three-hundred adults of an ENCYRTID WASP (Ooencyrtus erionotae) released in vicinity of E. thrax egg clusters at Wailua Homestead, Kauai, November 15. Prior release at same location in July failed to become established. (Melendez, Mau). Control of Ophiomyia phaseoli (bean fly) by BRACONID WASPS (Opius spp.) in backyard bean plantings excellent on Maui and Kauai during November. Parasitism averaged 88 percent on Maui, 99 percent on Kauai. (Mau).

New United States Records - AN APHID (Jacksonia papillata) - UTAH - Cache County. (pp. 872-873). A LEAFHOPPER (Balclutha rufofasciata) - HAWAII - Oahu Island. (p. 875). A THRIPS (Frankliniella schultzei) - FLORIDA - Dade County. (p. 873).

New State Records - An APHID (Cinara junipivora) - VIRGINIA - Fairfax County. (p. 869). An APHID (Jacksonia papillata) - IDAHO - Franklin County, NORTH CAROLINA - Yancey and Mitchell Counties. (p. 872). A BARK BEETLE (Ips sulcifrons) - COLORADO - Custer County. (p. 871). A LADY BEETLE (Lindorus lophanthae) - ALABAMA - Morgan County. (p. 873). A MEALYBUG (Eurycoccus jessica) - INDIANA - Tippecanoe County. (p. 871). A MEALYBUG (Rhizoecus pritchardi) - OREGON - Jackson County. (p. 870). RED WAX SCALE (Ceroplastes rubens) - PENNSYLVANIA - York County. (p. 870). A TACHINA FLY (Compsilura concinnata) - MICHIGAN - Isabella County. (p. 874). A THRIPS (Frankliniella schultzei) - FLORIDA - Dade County. (p. 873). A WEEVIL (Apion occidentale) - NORTH DAKOTA - Ransom County. (p. 869).

New County Records - An APHID (Aphis rumicis) VIRGINIA - Arlington (p. 872). FACE FLY (Musca autumnalis) KENTUCKY - Anderson, Carroll, Jefferson, Owen, Spencer, Trimble (p. 872). MOSQUITOES - INDIANA - Psorophora ferox-Marshall, Aedes vexans - Bourbon (p. 872). SPIREA APHID (Aphis spiraecola) NEW JERSEY - Hunterdon (p. 869). WOOLLY WHITEFLY (Aleurothrixus floccosus) CALIFORNIA - Los Angeles (p. 869). WHITEFRINGED BEETLES (Graphognathus spp.) VIRGINIA - Sussex, Prince George. TENNESSEE - Sevier. TEXAS - Navarro. (p. 874).

NATIONAL WEATHER SERVICE 30-DAY OUTLOOK

MID-DECEMBER 1974 TO MID-JANUARY 1975

The National Weather Service's 30 day outlook for mid-December to mid-January is for temperatures to average below seasonal normal in the South as well as in California and much of the Great Basin. Above normal averages are indicated for the Northwest and along the northern border from the Great Lakes to northern New England. In unspecified areas near normal temperatures are in prospect. Precipitation is expected to exceed the median amount along the west and east coasts, and also over the middle Mississippi Valley and most of the southern half of the Nation except for the central Plateau Region.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price $5.00 a year.

The U.S. Military Retrograde Cargo Inspection Program in the Republic of Viet-Nam: 1969-1973 1/

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Abstract: To preclude the introduction of pest species from the Republic of Viet-Nam to other countries, the U.S. Department of Defense, in cooperation with the U.S. Department of Agriculture and the U.S. Public Health Service, established a quarantine inspection program for all military cargo leaving that nation. During 40 months of operation, inspectors precleared about 1.5 million metric tons of air and maritime cargo.

Introduction: During war, quarantines and control programs aimed at potential foreign pests sometimes are neglected for expediency or simply overwhelmed by the volume of cargo and materiel. For example, during World War II, the oriental fruit fly (*Dacus dorsalis* Hendel) gained entrance to the Hawaiian Islands from the Marianas at a time when proper precautions could not be taken (Swain, 1952).

To preclude such a possibility from occurring during the Vietnamese War, the U.S. Department of Defense (DOD), in cooperation with the U.S. Department of Agriculture (USDA) and the U.S. Public Health Service (USPHS), established in 1969 a quarantine inspection program for all military retrograde cargo leaving the Republic of Viet-Nam. The program was designed to alleviate the inherent problems of inspecting vast quantities of cargo at ports of entry in the United States. In other words, it was set up as a preclearance program, with normal quarantine inspections continuing at destination ports in the United States.

From the beginning, personnel from USDA and USPHS served as advisors, and personnel from the Department of Defense served as inspectors or supervisors. During the 40 months of operation, 468 people served with the program: 434 inspectors from DOD, 23 advisors from USDA, and 11 advisors from USPHS.

1/ Amended from a paper presented by the senior author at the 46th annual meeting of the Eastern Branch, Entomological Society of America, Hershey, Pennsylvania, September 26, 1974.

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Military quarantine inspectors were responsible for preclearing not only military planes and ships, but also commercial vessels and aircraft which were U.S. flag carriers bound for any destination. Inspection services were not provided at South Vietnamese commercial ports, nor were carriers of foreign registry inspected at military ports.

Air Cargo Inspections: The U.S. Air Force was responsible for inspecting departing aircraft and air cargo. Principle Air Force quarantine inspection stations were located in Bien Hoa, Cam Ranh, Da Nang, Phu Cat, and Saigon.

The air cargo inspections began in January 1970 and continued until February 27, 1973. This date marked the termination of the entire military quarantine inspection program due to the departure of all U.S. armed forces from the Republic of Viet-Nam in March 1973. During the 38 months of operation, 17,752 cargo planes and 148,529 metric tons of cargo were inspected. In July 1971, the Air Force expanded its inspection services to include passenger aircraft. From that time until February 27, 1973, 3,342 passenger craft were precleared.

All departing planes were treated with micronized DDT-carbaryl dust 6/. About 460 kg of this insecticide were used in treating the 21,094 precleared aircraft. In addition, dichlorovos pest strips were used in some aircraft and in some containerized cargo shipped by sea. About 234,000 pest strips were used at seaports and air terminals.

Maritime Cargo Inspections: Maritime cargo made up the great bulk of tonnage being exported from the Republic of Viet-Nam. The U.S. Army was responsible for inspecting departing ships and maritime cargo. The principle U.S. Army terminals were located in Cam Ranh, Da Nang, Qui Nhon, and Saigon. The first inspections were made by the Army in September 1969. The maritime inspection program became fully operational on November 1, 1969, and continued for 40 months until February 27, 1973.

Table 1 summarizes the inspections of vessels and cargo for each of the 5 years of operation. Beginning in 1971, the amount of metric tons inspected rose tremendously. This is a reflection of the heavy equipment which began to leave the Republic of Viet-Nam in that year. In 1972, over 0.5 million metric tons were precleared; this is about 40 percent of the total maritime cargo for the entire 40 months.

Table 1 also shows that the total percentage of departing ships inspected was 61 percent. This figure is slightly misleading, however, when one considers that during the last 3 years of the program (1971-1973), when the bulk of cargo was being moved, the percentage of ships precleared was consistently around 90 percent.

6/ EPA Registration No. 10384-2.

From the outset, one of the greatest challenges in maritime inspections was preventing infestations of departing goods and ships by rodents and their fleas which are the vectors of plague. The only country in the world with plague-infected ports is Viet-Nam (Velimirovic, 1973). Plague came to Viet-Nam in 1894 during the last great plague pandemic. This pandemic was precipitated by escaping shipboard rodents, and was the source of plague epidemics in many seaport cities in every continent except Antarctica. With plague foci still existing in areas near the Pacific Ocean in the Western United States, ships and cargoes were vigorously supervised in both the Republic of Viet-Nam and in the United States. In the Republic of Viet-Nam, vigorous attempts were made to establish sterile areas adjacent to ports and to provide paved staging areas for cargo. In addition, bait stations were maintained in ports for rodents in accordance with the International Health Regulations of the World Health Organization.

Rodenticides and insecticides were applied to cargo by U.S. Government contractors. About 26 percent of the pieces being shipped by sea required pesticide treatment. These goods received about 250,000 rodent bait blocks and about 4,260 kg of 2 percent diazinon dust for rodent and flea control.

Discussion: The 148,529 metric tons of air cargo added to the 1,284,252 metric tons of maritime cargo equal 1,432,781 metric tons inspected and precleared during the 40 months of operation. The estimated cost of the entire program, including salaries, pesticides, transportation, and per diem rates, was about $16.5 million. By far the greatest amount of this cost (almost $16 million) was for the salaries of the inspectors and advisors.

Many medical and agricultural pests were intercepted in the Republic of Viet-Nam and prevented from being exported. Nevertheless, a number of real or potential pests were intercepted by quarantine inspectors in the United States in cargo being shipped from the Republic of Viet-Nam.

Girard (1969, 1971, 1972a, 1972b, 1973, 1974) has listed yearly the number of real or potential agricultural pests intercepted by inspectors from USDA. In fiscal year 1968, 107 pests were intercepted from the Republic of Viet-Nam. In 1969, the number rose to 124. In 1970, the year that the military quarantine inspection program began to function, only 85 plant pests were detected by USDA. Beginning in fiscal year 1971, the amount of tonnage and ship departures increased tremendously (see Table 1). It was during this time that the number of intercepted pests rose to 107. However, in 1972, the last year for which data on interceptions are available, only 84 plant pests were detected by quarantine inspectors. Thus, in spite of great increases in number of pieces and tonnage of retrograde cargo, the number of exported pests decreased.

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Table 1. Vessels and maritime cargo inspected by military quarantine inspectors in the Republic of Viet-Nam for each of the calendar years 1969-1973.

Year	Total No. Ships Departing	No. of Ships Inspected	Percent of Ships Inspected	No. of Pieces Inspected	Metric Tons Inspected
1969	402	35	9	8,834	34,043
1970	1,024	449	44	166,910	299,745
1971	671	608	91	169,007	422,487
1972	622	553	89	261,309	507,476
1973	51	48	94	7,034	20,501
Total	2,770	1,693	61	613,094	1,284,252

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
24(49-52):877-880, 1974

COOPERATIVE ECONOMIC INSECT REPORT

ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS - 1973

Introduction

Prior to 1966, insect loss estimates were published in the Cooperative Economic Insect Report as individual reports. An attempt has been made for the ninth year to condense loss estimates from various States into a single report. This gives a more meaningful and better overall picture of the crop losses. The data has been compiled from the crop loss estimates submitted from 14 States. The entomologists submitting the 1973 estimates are listed below.

H. F. McQueen	Alabama
J. E. May	Arizona
W. P. Boyer	Arkansas
W. B. Tappan	Florida
K. O. Bell	Kansas
D. E. Barnett	Kentucky
H. Hoger	Minnesota
D. L. Keith	Nebraska
W. A. Iselin	New Mexico
W. J. Brandvik	North Dakota
D. C. Arnold	Oklahoma
P. A. Jones	South Dakota
L. R. Green	Texas
W. A. Allen	Virginia

Legend for pest abbreviations appears at end of loss tables.

Separates of this report are available from the Pest Survey and Technical Support Staff.

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
24(49-52):881-903, 1974

Crop State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units) Tons	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
ALFALFA (Hay)										
Arkansas	AlW, FA, BA	60,000	0.6	24.00	18,000	432,000	4.00	42,000	168,000	600,000
Kansas	ACw, PWC	1,210,000	0.16	6.85	3,960	27,131	2.25	1,600	3,600	30,731
	AlW	"	0.26	11.41	223,410	2,550,091	2.50	208,850	522,125	3,072,216
	FA	"	0.16	3.85	11,970	82,009	2.50	4,030	10,075	92,084
	Gh	"	0.13	5.48	13,545	74,240	2.50	3,985	9,963	84,203
	PA	"	0.13	5.48	47,920	262,650	2.50	5,180	12,950	275,600
	SAA	"	0.16	6.85	17,470	119,691	3.00	14,080	42,240	161,931
	VC	"	0.16	6.85	105,075	719,895	2.50	60,925	152,313	872,208
Minnesota	L	-	-	-	1,000	-	-	52,740	53,740	-
	A	-	-		500	-	-	26,370	26,870	-
New Mexico	PA, SAA, AlW, AC	205,000	0.88	44.00	50,000	2,200,000	8.00	100,000	800,000	3,035,000
North Dakota	Gh, PA, AlW, PB	1,580,000	0.11	3.19	100,000	319,000	2.50	50,000	125,000	444,000
Oklahoma	AlW, PA, SAA, FA, GCw	526,000	0.86	39.16	123,084	4,819,969	7.98	350,316	2,795,522	7,615,491
South Dakota	Gh, PA, AlW, FB	2,530,000	0.44	13.49	569,250	7,679,182	2.75	63,250	173,937	7,853,119
Virginia	AlW, PA, Slb	75,000	1.11	61.05	11,530	703,907	7.50	45,920	344,400	1,278,907
					Subtotal	19,989,765			5,240,735	25,419,490
ALFALFA (Seed)			Lbs.							
Arizona	CSC, LB, StB	2,500	8.50	705.50	500	352,750	10.00	2,000	20,000	373,750
Nebraska	W, BB, Wbw, C, PB, L, Gh, Cws	17,000	7.20	5.04	1,870	9,425	3.50	1,530	5,355	14,780
					Subtotal	362,175			25,355	388,530

Crop State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
APPLES										
Arkansas	CdM, M, RAA, PC, LR	1,600	-	-	-	-	60.00	1,600	96,000	135,600
Minnesota	AM	-	-	-	-	-	-	372,000	372,000	372,000
Virginia	CdM, M, A, AM	Lbs. 400,000,000	-	-	-	-	Lbs. .0050	-	Lbs. 2,000,000	Lbs. 2,000,000
				Subtotal					468,000*	507,600*
BARLEY			Bu.							
Arizona	BA, FB, A	120,000	7.5	14.25	15,000	213,750	4.50	15,000	67,500	281,750
North Dakota	Gh, A, Ww, T	2,790,000	3.3	7.03	50,000	351,500	2.75	50,000	137,500	489,000
				Subtotal		565,250			205,500	770,750
BROCCOLI (Fall)			Cwt.							
Arizona	A, BA, CL	450	30	480.00	-	-	67.00	450	30,150	30,150
				Subtotal					30,150	30,150
BROCCOLI (Winter)										
Arizona	A, BA, CL	540	37.5	708.75	-	-	76.00	540	41,040	41,040
				Subtotal					41,040	41,040

* Less Virginia totals

Crop State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
BROILERS		Birds						Birds		
Alabama	Hf, DB, M, Li	399,300,000					.03	399,300,000	11,979,000	11,979,000
				Subtotal					11,979,000	11,979,000
CABBAGE (Fall)										
Arizona	A, BA, CL	240	101.5	390.78			85.00	240	20,400	20,400
				Subtotal					20,400	20,400
CABBAGE (Spring)										
Arizona	A, BA, CL	490	96	580.80	-		77.00	490	37,730	37,730
				Subtotal					37,730	37,730
CABBAGE (Winter)										
Arizona	A, CL, BA	290	155	768.80			72.00	290	20,880	20,880
				Subtotal					20,880	20,880
CANTALOUPES (Fall)										
Arizona	A, CL, L	600	4.5	43.20			6.25	600	3,750	3,750
				Subtotal					3,750	3,750
CANTALOUPES (Spring)										
Arizona	A, CL, L, M	6,900	26	296.40	-		6.25	6,900	43,125	43,125
				Subtotal					43,125	43,125

Crop State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Total Loss (dollars)	Control Cost: Sub-total (dollars)
CANTALOUPES (Summer)										
Arizona	A, CL, L, M	1,800	12.5	127.50	-		6.25	1,800	11,250	11,250
				Subtotal					11,250	11,250
CARROTS (Spring)										
Arizona	A, BA, CaB	2,300	5.5	34.82	600	20,892	4.75	1,700	8,075	28,967
				Subtotal		20,892			8,075	28,967
CARROTS (Winter)										
Arizona	A, BA, CaB	1,500	11	71.50	700	50,050	4.75	800	3,800	53,850
				Subtotal		50,050			3,800	53,850
CATTLE (Beef)		Head	Head	Head	Head		Head	Head		
Alabama	HoF, Li, CCG, SF, Hf, TF, FF, Ti, Mo, Bf	1,958,000	84 lbs.	26.88	500,000	13,440,000	3.00	1,458,000	4,374,000	17,814,000
Arkansas	HoF, LST	2,028,000	22.00*	22.00*	1,078,000	23,716,000	.80	950,000	760,000	24,476,000
	Mo	"	"	"	450,000	9,900,000				9,900,000
	CaL	"	"	"			.10	1,000,000	100,000	100,000
North Dakota	HoF, CaG, CaL, SF, FF, Mo	2,635,000	27.5	12.28	500,000	6,140,000	.50	2,000,000	1,000,000	7,140,000
Oklahoma	HoF, CCG, CaL, Ti, HrF	2,220,000	65 lbs.	38.29	2,356,830	33,278,988	1.88	2,880,570	5,415,472	38,694,460
				Subtotal		86,474,988			11,649,472	98,124,460

* Value per head

Crop State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
CATTLE (Dairy)										
Alabama	HoF, CCG, CaL, Ti, HrF	112,000	1,112 lbs.	93.63	14,000	1,310,820	2.75	180,000	495,000	1,805,820
Arkansas	Hf, HoF	96,000	Cwt. 4.44	35.48	39,000	1,383,720	4.00	57,000	228,000	1,611,720
Oklahoma	HoF, CaL, CCG, HrF, SF	130,000	11.4	83.68	23,360	1,979,869	3.20	94,640	302,848	2,282,717
				Subtotal		4,674,409			1,025,848	5,700,257
CAULIFLOWER (Fall)										
Arizona	A, BA, CL	100	30	651.00	-	-	65.00	100	6,500	6,500
				Subtotal					6,500	6,500
CAULIFLOWER (Winter)										
Arizona	A, BA, CL	850	45	976.50	-	-	75.00	850	63,750	63,750
				Subtotal					63,750	63,750
CORN (Grain)										
Alabama	SWCB, CLA, CEW, FA, ECB, MB, SGSB	610,000	Bu. 4.6	11.73	580,000	7,151,400	1.80	30,000	54,000	7,205,400
Arizona	CEW, LCB, SWCB, WCR, SCM	9,000	6.4	17.92	5,000	89,600	8.00	4,000	32,000	121,600

Crop State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
CORN (Grain) Cont.										
Kansas	CB	1,540,000	5	12.00	7,540	90,480	3.00	2,460	7,380	97,860
	CEW, FA (whorls)	"	4	9.60	151,250	1,452,000	2.50	33,150	82,875	1,534,875
	CEW, FA (ears)	"	-				2.70	24,000	64,800	64,800
	CLA	"					2.80	25,300	70,840	70,840
	CR (adults)	"	4	9.60	37,150	356,640	2.80	123,000	344,400	701,040
	CR (larvae)	"	16	38.40	65,000	3,604,800 1/	3.00	924,000	2,772,000	6,376,800
	Cws	"	5	12.00	9,000	108,000	2.00	18,450	36,900	144,900
	ECB	"	–	–	–	–	2.20	32,600	71,720	71,720
	SpM	"	–	-	-	–	3.50	300,000	1,050,000	1,050,000
	T	"	-	-	–	-	2.00	12,600	25,200	25,200
	WBC	"					3.40	3,700	12,580	12,580
	YsAw	"	3	7.20	5,300	38,160	2.00	5,000	10,000	48,160
Kentucky	ECB	968,000	1.14	2.79	86,152	240,364	5.50	59,048	324,764	565,128
Minnesota	CR	-	-		12,511,500	-	-	6,412,500	18,924,000	18,924,000
	ECB	-	-	-	10,384,958	-	-	50,362	10,435,320	10,435,320
	Cws	-	-	-	263,400	-	-	135,000	398,400	398,400
	Ww	-	-	-	395,100	-	-	202,500	597,600	709,924
Nebraska	CR, ECB, CEW, SCM, Cws, Gh, Ww, M, CLA, SB, Aws, FA, WBC, Grb	5,850,000	14	31.39	3,902,750 2/	30,691,572 2/	4.00	5,123,520	20,494,080	51,185,652

1/ Formula not applicable, loss of one bushel per acre on 462,000 acres added due to poor control

2/ Formula not applicable, combination of untreated acres needing treatment and acres receiving treatment that yielded inadequate insect protection

Crop State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
CORN (Grain) Cont.										
North Dakota	CR, Ww, Gh, CLA	180,000	3.4	7.65	31,000	237,150	2.30	30,000	69,000	306,150
South Dakota	CR, Ww, Gh, Cws	2,630,000	14.0	29.03	473,400	13,742,802	6.00	1,104,600	6,627,600	20,370,402
Virginia	Aws, Cws, JB	550,000	63	148.05	3,250	407,138	5.00	85,250	426,250	833,388
				Subtotal		58,210,106			62,931,709	121,254,139
CORN (Silage)			Ton(s)							
North Dakota	ECB, CR, Ww, Gh, CLA	305,000	.31	4.03	65,000	261,950	2.50	15,000	37,500	422,300
Virginia	Aws, Cws, JB, CEW	176,000	11.3	202.50	880	178,200	5.00	27,280	136,400	314,600
				Subtotal		440,150			173,900	736,900
CORN (Sweet)										
Alabama	SGSB, BSB, FA, Ww, CR, CLA	4,500					32.00	4,500	144,000	144,000
Minnesota	CR	12,511,500						81,000	81,000	81,000
	ECB	10,384,958						688,500	688,500	688,500
	CEW							81,000	81,000	81,000
				Subtotal					850,500	850,500
COTTON			Lbs.							
Alabama	BW, Blw, TB, T, TPB, CA, SpM, BwWf	525,000	85	35.70	30,000	1,071,000	16.00	480,000	7,680,000	8,841,000
Arkansas	BW, Blw, M, A, P	1,000,000	24.8	11.43	50,000	571,500	8.00	750,000	6,000,000	6,766,500
Oklahoma	BW, Blw, F, T	526,000	86	45.58	123,926	5,648,547	10.55	202,194	2,133,147	7,781,694
Texas	A, SpM, T, F, Blw, BW, Cws, BA, Gh	5,200,000	172.4	81.20	2,600,000 3/	71,711,780	8.75	6,011,809 4/	15,022,438	87,617,368
				Subtotal		79,022,827			30,835,585	111,006,562

3/ Estimate
4/ Estimated accumulated acres treated

Crop / State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
COTTON (Seed)			Ton							
Alabama	BW, Blw, TB, T, TPB, CA, SpM, BwWf	510,000	.07	6.77	30,000	203,100	*	480,000	*	203,000
				Subtotal						203,000
COTTON (Pima)			Lbs.							
Arizona	Blw, LB, PBw	34,000	91.05	121.10	14,000	1,695,400	26.00	20,000	520,000	2,215,400
New Mexico	Blw, PBw, LB	17,700	22.56	2,481.60		3,841	12.00	3,500	42,000	46,181
				Subtotal		1,699,241			562,000	2,261,581
COTTON (Upland)										
Arizona	LB, BA, Blw, PB, StB, CLB	275,000	266.25	106.50	45,000	4,792,500	30.00	180,000	5,400,000	10,192,500
New Mexico	PBw, Blw, LB	127,000	61.2	33.05	-	-	11.00	7,600	91,200	91,200
				Subtotal					5,491,200	10,283,700
FIELD BEANS										
Nebraska	WBC, MBB, Gh, BLB, L, A	104,000	1.28	25.60	5,000	128,000	3.50	75,000	262,500	390,500
				Subtotal		128,000			262,500	390,500
FLAX										
North Dakota	Gh, Cr	933,000	0.8	6.40	20,000	128,000	2.75	20,000	55,000	183,000
South Dakota	Cws	540,000	6.8	51.00	4,860	247,860	7.00**	540	3,780	251,640
				Subtotal		375,860			58,780	434,640

* Charged to lint
** Replanted

Crop State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
FOREST										
Alabama	ETC, BTB, SPB, AB, SPS	21,700,000		–	–	5,400,000	–	–	–	85,400,000
					Subtotal	5,400,000				5,400,000
GRAPEFRUIT (Red Blush)			Boxes							
Arizona	T, SpM	2,631	150	165.00	–	–	20.00	2,631	52,620	52,620
					Subtotal				52,620	52,620
GRAPEFRUIT (White)										
Arizona	T	5,582	150	90.00	582	52,380	20.00	5,000	100,000	152,380
					Subtotal	52,380			100,000	152,380
GRAPES										
Arkansas	GPM, GS	2,800	-		–	–	34.00	2,800	95,200	95,200
					Subtotal				95,200	95,200
HAY										
Arizona	AC, BA, Cws, LB, EGW	260,000	0.58	24.24	40,000	969,600	3.00	20,000	60,000	1,029,600
Minnesota	Gh				184,590			3,500	188,090	188,090
Nebraska	Gh, GW, Cws, SAA, PB, PA CoA, L, AC, Wbw, CR, Aws, Grb	4,200,000	0.14	4.41	366,000	1,614,060	3.50	96,000	336,000	1,950,060
					Subtotal	2,583,660			584,090	3,167,750

Crop / State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
HENS AND PULLETS		Birds					Birds	Birds		
Alabama	Hf, DB, M, L	12,743,000		-	-	-	0.12	20,200,000	2,424,000	2,424,000
Arkansas	NFM	16,000,000	-	-	-	-	0.01	6,000,000	60,000	60,000
	Hf	16,000,000	-		-	-	0.005	13,000,000	65,000	65,000
				Subtotal					2,549,000	2,549,000
HOGS		Head	Lbs							
Alabama	Hf, HL, M	1,288,000	18.8	6.97	648,000	4,516,000	1.35	1,600,000	2,160,000	6,676,000
Arkansas	Li	349,000	-	2.19	140,000	306,600	0.10	35,000	3,500	310,100
				Subtotal		4,822,600			2,163,500	6,986,100
HONEYDEWS (Summer)			Cwt.							
Arizona	A, CL, L, M	1,200	18.5	182.41	-	-	5.00	1,200	6,000	6,000
				Subtotal					6,000	6,000
HONEYDEWS (Fall)										
Arizona	A, CL, L	200	9	95.4	-	-	6.00	200	1,200	1,200
				Subtotal					1,200	1,200
LEMONS			Boxes							
Arizona	T, SpM	14,464	165	473.55	-	-	32.00	14,464	462,848	462,848
				Subtotal					462,848	462,848
LETTUCE (Spring) - Yuma			Cwt.							
Arizona	A, BA, CL, LB, T	2,900	115.5	1,224.30	-	-	65.00	2,900	188,500	188,500
				Subtotal					188,500	188,500

Crop State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
LETTUCE (Spring) - Other										
Arizona	A, BA, CL, LB, T	9,500	82.50	1,006.50			65.00	9,500	617,500	617,500
				Subtotal					617,500	617,500
LETTUCE (Fall) - Yuma										
Arizona	BA, CL, CEW, A, LB, T, Cr	8,500	104.5	397.10			78.00	8,500	663,000	663,000
				Subtotal					663,000	663,000
LETTUCE (Fall) - Other										
Arizona	BA, CL, CEW, Cws, A, LB, T	9,900	96.25	385.00			78.00	9,900	772,200	772,200
				Subtotal					772,200	772,200
LETTUCE (Winter) - Yuma										
Arizona	BA, CL, A, T, LB	9,400	123.75	909.56			78.00	9,400	733,200	733,200
				Subtotal					733,200	733,200
LETTUCE (Winter) - Other										
Arizona	BA, CL, A, T, LB	1,600	79.75	710.57	-	-	78.00	1,600	124,800	124,800
				Subtotal					124,800	124,800
OATS										
Nebraska	Ww, EGA, WG, CB, L, Aws, Cws, Gh	460,000	1.92	2.02	7,000	14,140	3.00	3,000	9,000	23,140
North Dakota	Gh, Ww	1,800,000	3.7	3.96	20,000	79,200	2.50	20,000	50,000	129,200
				Subtotal		93,340			59,000	152,340
ONIONS (Dry) - Spring			Cwt.							
Arizona	BA, CL, OT	1,600	96	848.64	600	509,184	5.00	1,000	5,000	514,184
				Subtotal		509,184			5,000	514,184

Crop State	Pest Complex	Total Acres Produced	Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
ORANGES (Navels)			Boxes							
Arizona	T, SpM	4,653	30	63.30		–	20.00	4,653	93,060	93,060
				Subtotal					93,060	93,060
ORANGES (Sweets)										
Arizona	T, SpM	1,669	120	236.40	–	–	20.00	1,669	33,380	33,380
				Subtotal					33,380	33,380
ORANGES (Valencias)										
Arizona	T, SpM	17,759	60	133.20	759	101,098.80	20.00	17,000	340,000	441,099
				Subtotal		101,098.80			340,000	441,099
ORNAMENTALS AND TURF										
Alabama	TS, SJS, SpM, Wf, PTB, LPTB, CB, A, Sc, SW	1,200,000	–		–		3.00	1,200,000	–	3,600,000
				Subtotal						3,600,000
PASTURES										
Arkansas	FA	2,613,000*	-	**	75,000	**	3.00	175,000	525,000	–
				Subtotal					525,000	
PEANUTS			Lbs.							
Alabama	LCB, T, SCR, GC, W, WfB, SpM, L, RPw	200,000	600	96.60	30,000	2,898,000	6.00	160,000	960,000	3,858,000
Oklahoma	LCB, RPw, CEW, T, SpM	118,000	194	31.04	22,267	691,168	5.37	37,913	203,593	894,761
Virginia	SCR, PL, T	102,000	295	48.08	2,000	96,160	12.50	100,000	1,250,000	1,366,160
				Subtotal		3,685,328			2,413,593	6,118,921

* 1969 Census
** No evaluation of untreated acreage loss made

Crop State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
PEACHES		Lbs.					Tree	Trees		
Alabama	PTB, CPTB, SJS, Sc, SpM, OFM	17,000,000	-	-			0.32	650,000	208,000	208,000
Arkansas	OFM, TPB, SB, PC, Sc, PTB	Acres 3,500					Acre 38.00	Acres 3,500	133,000	343,000
				Subtotal					341,000	551,000
PEAS										
Minnesota	A							100,800	100,800	100,800
				Subtotal					100,800	100,800
PECANS		Trees	Trees	Trees		Trees	Trees			
Alabama	HS, A, PeW, PNC, StB, PLC	925,000	12.0	4.74	600,000	2,844,000	9.00	150,000	1,350,000	4,044,000
Oklahoma	PeW, PNC, HS, FW	28,000,000	Lbs. 224	Acre 68.77	38,488	Acre 2,646,820	Acre 12.88	15,720	202,474	2,849,294
				Subtotal		*			1,552,474	6,893,294
POPCORN		Acres								
Nebraska	CR, ECB, CEW, SCB, Cws, M, Ww, CLA, Aws, FA, WBC, Grb	24,500	408	14.28	2,150	30,702	3.50	15,000	52,500	83,202
				Subtotal		30,702			52,500	83,202
POTATOES										
Alabama	Ww, A, PFB, PoL, CPB, WFB	19,000	–			-	7.00	19,000	133,000	133,000
Arizona	PP, GPA	8,000	Cwt. 210	1,060.50	-	-	5.00	8,000	40,000	40,000

* Cannot be added because of different Units

Crop State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Total Loss (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Sub-total (dollars)
POTATOES (Cont.)										
Minnesota	Cws	-			10,621		-	222,500	233,121	233,121
	Ww	-		-	3,824	-		80,100	83,924	83,924
	L		-	-	14,689			311,500	326,189	326,189
	A	-	-	-	4,284		-	89,000	93,284	93,284
	FB	-		-	4,284	-	-	89,000	93,284	93,284
	CPB	-	-	-	3,824	-	-	80,100	83,924	83,924
Nebraska	CPB, L, PB, BB, PP, FB	6,800	15.92 Cwt.	55.56	500	27,780	3.50	2,000	7,000	34,780
North Dakota	FB, L, CPB, Ww, CL	132,000	4.4	14.30	10,000	143,000	9.30	60,000	558,800	701,800
				Subtotal		170,780			1,652,526	1,823,306
RANGE										
South Dakota	Gh	26,000,000	0.21	6.30	23,400	147,420	2.75	2,600	7,150	154,570
				Subtotal		147,420			7,150	154,570
RICE (Foliage treatment)										
Arkansas	Gh, RSB	533,000	-	-			2.50	10,000	25,000	25,000
				Subtotal					25,000	25,000
RICE (Seed treatment)										
Arkansas	RWW	533,000	-		*		0.35	400,000	140,000	140,000
				Subtotal					140,000	140,000
RYE			Bu.							
North Dakota	Gh	107,000	2.4	4.56	6,000	27,360	2.50	1,000	2,500	29,860
				Subtotal		27,360			2,500	29,860
SAFFLOWER										
Arizona	LB	23,000	97.5	7.41	15,000	111,150	3.50	8,000	28,000	139,150
				Subtotal		111,150			28,000	139,150

* RWW resistant to aldrin seed treatment

Crop State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
SMALL GRAIN										
Minnesota	Cws	-	-	-	-	-	-	8,800	8,000	8,800
	Ww	-	-	-	-	-	-	8,800	8,800	8,800
	A	-	-	-	-	-	-	88,000	88,000	88,000
	Gh	-	-	-	-	-	-	88,000	88,000	88,000
	Aws	-	-	-	-	-	-	33,000	33,000	33,000
				Subtotal					226,600	226,600
SNAP BEANS										
Alabama	MBB, BLB, CEW, Spm, LCB, T, CR	1,450	-	-	-	-	16.00	1,450	23,200	23,200
				Subtotal					23,200	23,200
SORGHUM (Grain)			Bu.							
Arizona	A, BA, CEW, FB, LCB, SwCB, STB	140,000	7.20	20.59	20,000	411,800	5.00	80,000	400,000	811,800
Arkansas	SM, SWw, FA	149,000	14.00	27.54	1,300	35,802	2.50	18,700	46,750	82,552
Kansas	CB	3,900,000	2.24	4.70	15,210	71,548	2.50	6,290	15,725	87,273
	CEW (heads)	"	2.24	4.70	7,000	32,928	2.50	5,500	13,750	46,678
	CEW, FA (whorls)	"	2.24	4.70	174,400	820,378	2.50	30,050	75,125	895,503
	CLA	"	-	-	-	-	2.50	70,800	177,000	177,000
	Cws	"	2.24	4.70	9,000	42,336	2.50	18,450	46,125	88,461
	Gh	"	2.24	-	-	-	2.00	10,650	21,300	21,300
	Gb	"	8.40	17.64	280,000	4,939,200	2.75	940,400	2,586,100	7,525,300
	SpM	"	-	-	-	-	3.00	28,500	85,500	85,500
	SWw	-	2.80	5.88	8,900	52,322	2.50	5,500	13,750	66,082
	T	-	-	-	-	-	2.50	10,200	25,500	25,500
	YsAw	-	1.68	3.53	15,460	54,543	2.50	5,040	12,600	67,143
New Mexico	Gb, StB, FcB	363,000	10.80	26.89	25,000	67,225	2.50	130,000	32,500	139,725
Nebraska	CLA, Cws, Gh, Ww, PB, RA, CB, SCM, ScB, Gb	2,060,000	4.08	8.32	613,710	1,713,920 5/	4.00	875,500	3,502,000	5,215,920

5/ Formula not applicable, combination of untreated acres needing treatment and acres receiving treatment that yielded inadequate insect protection.

Crop State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
SORGHUM (Cont.)										
Oklahoma	Gb, CEW, SM, FA, CLA	696,000	7.40	34.13	143,306	4,891,034	3.50	58,534	204,869	5,095,903
South Dakota	Gb, Ww, CLA	262,000	8.60	17.37	55,020	955,697	2.75	23,580	64,845	1,020,542
Texas	Gb, CEW, SM, SWw, CB, ScR	6,950,000	30.00	63.00	1,256,240	22,536,990	4.70	2,769,770	13,017,919	35,554,909
				Subtotal		36,625,723			20,341,358	57,007,091
SOYBEANS			Bu.							
Alabama	TB, VbC, CL, SGSB, BSB, BLB, CEW, LCB, MBB, SL, GCw, WfB	920,000	2.10	11.55	75,000	866,250	5.00	325,000	1,625,000	2,491,250
Arkansas	CEW, FA, GW	4,650,000	-	-	-	-	2.50	25,000	62,500	62,500
Kansas	CEW	1,200,000	1.80	9.94	23,100	229,706	2.50	2,000	5,000	234,706
	Cws	"	0.70	3.73	10,700	39,900	2.50	3,100	7,750	47,650
	GCw	"	0.70	3.73	46,600	173,771	2.50	3,000	7,500	181,271
	YsAw	"	0.70	3.73	4,750	17,713	2.50	250	625	18,338
Kentucky	GCw	924,000	1.30	7.17	36,960	265,003	2.75	9,240	25,410	290,413
Minnesota	Gh	-	-	-	10,000	-	-	-	10,000	10,000
	PL	-	-	-	-	-	-	102,500	102,500	102,500
Nebraska	BLB, Grb, MBB, Wbw, GCw, Gh, CR, Cws, PL	1,210,000	4.50	24.52	48,400	1,186,768	3.50	72,600	254,100	1,440,868
North Dakota	Gh, PL	233,000	1.20	6.60	50,000	330,000	2.50	30,000	75,000	405,000
South Dakota	Gh	411,000	7.20	39.96	-	-	2.75	12,330	33,908	33,908
Virginia	MBB, CEW, StB	413,000	5.40	29.70	2,650	78,705	4.40	189,980	835,912	927,867
				Subtotal		3,187,816			3,045,205	6,246,271

Crop / State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
STRUCTURES		Homes								
Alabama	Cor, Mo, SGB, SqGB, Hf, CiB	1,050,000	-	-	-	-	5.00	1,050,000	5,250,000	5,250,000
				Subtotal					5,250,000	5,250,000
SUGAR BEETS			tons							
Arizona	A, BA	13,000	1.13	16.95	8,000	135,000	4.50	5,000	22,500	158,100
Minnesota	Cws	-	-	-	-	-	-	112,000	112,000	112,000
	Ww	-	-	-	-	-	-	19,600	19,600	19,600
	RM	-	-	-	-	-	-	84,000	84,000	84,000
	Wbw	-	-	-	-	-	-	8,400	8,400	8,400
Nebraska	Wbw, L, Gh, Ww, FB, SpM	74,500	1.19	40.60	500	20,300	4.00	8,500	34,000	54,300
North Dakota	SBRM, Cws, Wbw, Gh	79,400	0.94	18.80	3,000	56,400	6.75	52,000	351,000	407,400
				Subtotal		212,300			639,900	852,200
SUNFLOWERS			lbs							
Minnesota	PL	-	-	-	32,937	-	-	-	32,937	32,937
	SfB	-	-	-	-	-	-	98,813	98,813	98,813
North Dakota	PL, Gh, Cws, Ww	411,000	49.80	3.79	3,000	11,370	2.50	120,000	300,000	311,370
South Dakota	SHM, PL	79,000	475	35.63	3,752	133,684	3.50	198	693	134,377
				Subtotal		145,054			432,443	577,497
SWEET POTATOES										
Alabama	Ww, FB, SpW, WG, WfB, GCW, YsAw	4,500	-	-	-	-	8.50	-	38,250	38,250
				Subtotal					38,250	38,250

Crop / State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
TANGERINES (Algerian)			boxes							
Arizona	CT	521	35	46.20	-	-	20.00	521	10,420	10,420
				Subtotal					10,420	10,420
TANGERINES (Dancy)										
Arizona	CT	160	35	10.50	-	-	20.00	160	3,200	3,200
				Subtotal					3,200	3,200
TANGERINES (Minneola)										
Arizona	CT	1,970	35	112.35	-	-	20.00	1,970	39,400	39,400
				Subtotal					39,400	39,400
TANGERINES (Orlando)										
Arizona	CT	1,309	35	42.70	-	-	20.00	1,309	26,180	26,180
				Subtotal					26,180	26,180
TOBACCO (Shade grown type 62)			acres							
Florida	TB, Cws, TFB, CL, Ww, GPA	2,100	36	103.00	-	216,300	50.00	2,100	105,000	537,600
				Subtotal		216,300			105,000	537,600
TOBACCO (Flue-cured type 14)										
Florida	TB, TbH, Cws, GPA, CL, Ww	11,500	187	166.00	-	1,909,000	19.00	11,500*	218,500	2,242,500
Kentucky	FB, TbH, TB, A	170,000	36.80	33.48	15,600	522,288	10.00	46,900	969,000	1,491,288
				Subtotal		2,431,288			1,187,500	3,733,788

* All acreage treated regardless of need

Crop State	Pest Complex	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
TOMATOES										
Alabama	TFw, FB, A, CL, CMF, SpM, TPw, WTB	10,000	-	-	-	-	50.00	10,000	500,000	500,000
Arkansas	TFw	3,200	-	-	-	-	25.00	2,600	65,000	65,000
				Subtotal					565,000	565,000
TURKEY										
Alabama	Ht, DB, M, Li	29,000	-	-	-	-	0.05	29,000	14,500	14,500
				Subtotal					14,500	14,500
WATERMELONS (Summer)			cwt							
Arizona	A, CL, L	4,300	6.75	23.15	300	6,945	4.50	400	1,800	8,745
				Subtotal					1,800	8,745
WHEAT			bu.							
Arizona	Gb	216,000	3.50	9.10	36,000	327,600	2.50	20,000	50,000	377,600
Kansas	ACw, PWC,	10,400,000	4.40	15.98	2,144	34,270	2.20	14,356	31,583	65,853
	Gb	"	1.90	6.66	23,120	153,979	2.00	3,480	6,969	160,939
	HF	"	-	-	15,487,704*	-	-	-	-	15,487,704
Nebraska	BWM, WG, WSM, Gws, HF, Gb, Gh, Ww, EGA, CB, WCB, Aws	2,680,000	5.30	18.35	188,571	3,460,278	3.50	12,429	43,501	3,503,779
New Mexico	Gb, Gh, FCB	289,000	0.60	1.95	60,000	117,000	2.75	140,000	385,000	520,000
North Dakota	Ww, Gh, WSM, Aws	8,913,000	1.70	8.26	600,000	4,956,000	2.50	250,000	625,000	5,581,000
Oklahoma	Gb, Aws, FA, BWM	5,260,000	5.10	17.85	1,110,912	19,892,779	2.63	624,888	1,643,455	21,536,234

* Formula not applicable, yield loss based on statewide loss survey

Crop State	Pest Comples	Total Acres Produced	Yield Loss: Loss Per Acre (Units)	Yield Loss: Loss Per Acre (dollars)	Yield Loss: Non-treated Acres	Yield Loss: Sub-total (dollars)	Control Cost: Cost Per Acre (dollars)	Control Cost: Treated Acres	Control Cost: Sub-total (dollars)	Total Loss (dollars)
WHEAT (con't)										
Texas	Gb, WGM, FA	3,400,000	7.30	22.48	67,000	1,506,160	2.35	833,000	1,957,550	3,463,710
				Subtotal		30,448,066			4,743,058	50,695,819
WHEAT (HRS)										
North Dakota	WSSF	6,220,000	0.84	3.36	1,500,000	5,040,000	-	100,000	-	5,040,000
				Subtotal		5,040,000				5,040,000
WHEAT (Spring)										
South Dakota	WSM, HF	1,490,000	1.38	5.31	89,400	474,714	-	-	-	474,714
				Subtotal		474,714				474,714
WHEAT (Winter)										
South Dakota	Gb	666,000	19.30	72.30	232,800	16,831,440	2.75	300,000	825,000	17,656,400
				Subtotal		16,831,440			825,000	17,656,400

LEGEND

A - Aphids
AB - Ambrosia Beetle
AC - Alfalfa Caterpillar
ACw - Army Cutworm
AlW - Alfalfa Weevil
AM - Apple Maggot
Aws - Armyworm
BA - Beet Armyworm
BB - Blister Beetle
BF - Bean Fly
BLB - Bean Leaf Beetle
Blw - Bollworm
BSB - Brown Stink Bug
BTB - Black Turpentine Beetle
BW - Boll Weevil
BWM - Brown Wheat Mite
BwWf - Bandedwing Whitefly
C - Chalcids
Ca - Cotton Aphid
CaG - Cattle Grub
CaL - Cattle Lice
CB - Chinch Bug
CiB - Cigarette Beetle
CCG - Common Cattle Grub
CdM - Codling Moth
CEW - Corn Earworm
CT - Citrus Thrips
CL - Cabbage Looper
CaB - Carrot Beetle
CLA - Corn Leaf Aphid
CLB - Cotton Leafperforator
CoA - Clover Aphid
CSC - Clover Seed Chalcid
Cor - Cockroaches
CPB - Colorado Potato Beetle
Cr - Crickets
CR - Corn Rootworms
Cws - Cutworms
DB - Darkling Beetles
ECB - European Corn Borer
EGA - English Grain Aphid
EGW - Egyptian Alfalfa Weevil
ETC - Eastern Tent Caterpillar
F - Fleahoppers
FCB - False Chinch Bug
FA - Fall Armyworm
FW - Fall Webworm
FB - Flea Beetles
FF - Face Fly
GCw - Granulate Cutworm
GPM - Grape Berry Moth
Gb - Greenbug
Gs - Grape Scale
Gh - Grasshoppers
GPA - Green Peach Aphid
Grb - Grubs
GW - Garden Webworm
HF - Hessian Fly
Hf - House Fly
HL - Hog Louse
HoF - Horn Fly
HrF - Horse Fly
HS - Hickory Shuckworm
JB - Japanese Beetle
L - Leafhoppers
LCB - Lesser Cornstalk Borer
Li - Lice
LMF - Leafminer Flies
LPTB - Lesser Peachtree Borer
LR - Leafrollers
LST - Lone Star Tick
LB - Lygus Bugs
M - Mites
MB - Maize Billbug
MBB - Mexican Bean Beetle
Mo - Mosquitoes
NFM - Northern Fowl Mite
OT - Onion Thrips
OFM - Oriental Fruit Moth
P - Phylloxeras
PL - Painted Lady
PA - Pea Aphid
PB - Plant Bugs
PBw - Pink Bollworm
PC - Plum Curculio
PeW - Pecan Weevil
PFB - Potato Flea Beetle
PoL - Potato Leafhopper
PLC - Pecan Leaf Casebearer
PNC - Pecan Nut Casebearer
PP - Potato Psyllid
PTB - Peach Tree Borer
PWC - Pale Western Cutworm
RAA - Rosy Apple Aphid
RPw - Rednecked Peanutworm
RWW - Rice Water Weevil
RSB - Rice Stink Bug
SAA - Spotted Alfalfa Aphid
Sc - Scales
ScB - Seedcorn Beetle
SCM - Seedcorn Maggot
SCR - Southern Corn Rootworm
SGB - Sawtoothed Grain Beetle
SF - Stable Fly
SfB - Sunflower Beetle
SGSB - Southern Green Stink Bug
SJS - San Jose Scale
SW - Sod Webworm
SL - Soybean Looper
Slb - Spittlebugs
SqGB - Squarenecked Grain Beetle
SPB - Southern Pine Beetle
SpM - Spider Mites
SPS - Southern Pine Sawyer
SpW - Sweetpotato Weevil
StB - Stink Bugs
SBRM - Sugar Beet Root Maggot
SHM - Sunflower Head Moth
SwCB - Southwestern Corn Borer
SWw - Sorghum Webworm
TS - Tea Scale
T - Thrips
TB - Tobacco Budworm

LEGEND
(Con't)

TbH - Tobacco Hornworm
TF - Tabanid Flies
TFB - Tobacco Flea Beetle
TFw - Tomato Fruitworm
Ti - Ticks
TPB - Tarnished Plant Bug
TPw - Tomato Pinworm
TSM - Tumid Spider Mite
Vbc - Velvetbean Caterpillar
VC - Variegated Cutworm
W - Weevils
WBC - Western Bean Cutworm
Wbw - Webworms
WCR - Western Corn Rootworm
Wf - Whiteflies
WfB - Whitefringed Beetles
WG - White Grubs
WSM - Wheat Stem Maggot
WSSF - Wheat Stem Sawfly
Ww - Wireworms
YsAw - Yellowstriped Armyworm

Weather of the week continued from page 866.

Friday, another Low pressure center triggered snow over the extreme northern Mississippi Valley and western Great Lakes region. Elsewhere, rain and drizzle extended from the southern Great Lakes to the northern and central appalachians. A cold front brought clouds and rain to the Pacific Northwest and northern California Saturday. Around 1 inch of rain fell during the morning at Eureka, California, and Brookings, Oregon, while 1 inch of snow covered Boise, Idaho, and Winnemucca, Nevada. Nearly 11 inches of snow blanketed parts of Nebraska and northern Kansas on Sunday. Elsewhere, rain and drizzle fell along a cold front trailing from a Low in eastern Iowa into the central gulf coast. During the morning, 1.5 inches of rain soaked Columbus, Georgia, and over 1 inch fell at Macon, Georgia, and Pensacola, Florida.

TEMPERATUE: Cold air hovered over the South for the second consecutive week keeping temperatures slightly below normal all week. Sections of Arizona and New Mexico averaged 6 to 9 degrees below normal during the week. In contract, most of the Nation's northern half experienced above normal temperatures. Monday, the thermometer reached 70 degrees in extreme southern Florida and along the extreme southern California coast, while it remained below freezing from the Great Lakes to the Ohio Valley eastward into the Appalachians and in portions of the Rocky Mountain region. Predawn readings Tuesday were unusually warm over the northern and central Plains and northern New England for early December. Readings in the teens were restricted to the upper Great Lakes and the Ohio Valley into the Appalachians, with some colder readings in the Rockies. In contrast, it was quite chilly along the gulf coast with temperatures in the 30's and 40's. Wednesday, midday temperatures lingered in the 30's and 40's. It warmed into the 50's and 60's in the Gulf Coast States including southeast Texas. Along the Pacific coast. Most temperatures remained in the 40's and 50's. Afternoon temperatures were near normal on Thursday, most places ranging from the 20's in the northern portions of North Dakota and Minnesota to the 80's in southern Florida. Friday, midday temperatures climbed into the 30's and 40's over much of the country. Afternoon temperature extreme for the Nation ranged from 10 degrees at Minot, North Dakota, to 81 degrees at West Palm Beach, Florida. Minimum temperatues Saturday morning ranged from 1 degree at Alamosa, Colorado, and Ely, Nevada, to 69 degrees at Key West, Florida. Afternoon temperatures ranged from the upper teens in northern Maine to the 80's in extreme southern parts of Texas and Florida. Sunday, most midday temperatures lingered in the 20's and 30's across the Nation. The Southeast and the Gulf Coast States and Pacific Coast States remained in the 40's and 50's.

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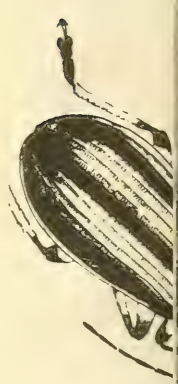

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